

**Derbyshire Dales District Council**

# **Air Quality Action Plan**

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

**Local Air Quality Management**

**Feb 2023**



## Derbyshire Dales District Council

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<b>Report Reference Number</b>	Ashbourne AQAP
<b>Date</b>	Feb 2023

# 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. This is our first action plan and it outlines the action we will take to improve air quality in Derbyshire Dales District Council between 2023-2027.

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<sup>1,2</sup>.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>. Derbyshire Dales District Council is committed to reducing the exposure of people in Derbyshire Dales District Council to poor air quality in order to improve health.

We have developed actions that can be considered under 7 broad topics:

- Alternatives to private vehicle use
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure

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<sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

<sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Traffic management

Our specific priorities are:

- Action 1: Investigate the use of Urban Traffic Management Control to optimise traffic flows within Ashbourne town centre
- Action 2: Investigate town centre priority or capacity changes to improve heavy goods and other vehicle flows on A515 Buxton Road, Ashbourne
- Action 3: Influence route selection via live traffic information systems
- Action 4: Investigate improved tree canopy pollution dispersal

### **Wider Air Pollution Preventative Measures**

- Action 5: Active Travel Promotion
- Action 5a) St John Street and Dig Street/Compton Public Realm
- Action 5b) Mobility Hub
- Action 6: Electric Vehicle Charging Points
- Action 7: Business and School Travel Planning
- Action 7a) Workplace travel plans
- Action 7b) School travel plans
- Action 7c) School Streets
- Action 8: Bus Service Improvement Plan (BSIP) implementation
- Action 8a) Bus priority
- Action 8b) Mobility hub
- Action 9: Engagement with minerals and logistics companies

The majority of emission arise from Heavy Goods Vehicles (HGV's) and cars. There is no discernible contribution from point sources or industry. Traffic modelling has found that a relief road is the best option to secure a long-term reduction in heavy goods vehicles (HGVs) travelling through the town centre, and long-term air quality improvement. A western relief road alignment has been found to be the best route for existing HGVs. There are statutory work packages that are needed to be completed

ahead of delivery of a A515 Ashbourne Relief Road, including planning and land assembly. The Relief Road is therefore not considered a short-term mitigation measure that could be delivered by 2026, when nitrogen dioxide concentrations are predicted to return below National air quality objective levels (due to continued improvement to vehicle fleet emissions). However, given the anticipated longer-term benefits of HGV and other motorised vehicle reduction in the town centre associated with delivery of the Relief Road an Action has been included to monitor further development of the proposals.

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 Derbyshire Dales District Council's direct influence.

## **Responsibilities and Commitment**

This AQAP was prepared by the Regulatory Services Department of Derbyshire Dales District Council with the support and agreement of the following officers and departments:

Director of Regulatory Services, Derbyshire Dales District Council

Environmental Health Manager, Derbyshire Dales District Council

Environmental Health Officer, Derbyshire Dales District Council

Transport Strategy Manager, Derbyshire County Council

Senior Project Officer, Transport Strategy, Derbyshire County Council

Ashbourne Parish Council

Ashbourne Town Team

This AQAP has been approved by:

<insert details of high level Council members who have approved the AQAP (This could also include support from County Councils or from National Highways where appropriate) e.g. Head of Transport Planning, Head of Public Health, with e-signature>.

<Amend as appropriate> This AQAP <has/has not> been signed off by a Director of Public Health. <Specify which body has signed off the AQAP>

This AQAP will be subject to an annual review, appraisal of progress and <reporting to the relevant Council Committee (specify if relevant)>. Progress each year will be reported in the Annual Status Reports (ASRs) produced Derbyshire Dales District Council, as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to Karen Carpenter at:

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# 1 Introduction

This report outlines the actions that Derbyshire Dales District Council will deliver between 2022-2026 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 Ashbourne area.

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

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

## 2 Summary of Current Air Quality in Derbyshire Dales District Council

Please refer also to the latest ASR from Derbyshire Dales District Council

Derbyshire Dales is primarily a rural area with a total population in the region of 70,000. The total area of the District is approximately 780 square kilometres and half of the District is within the Peak District National Park.

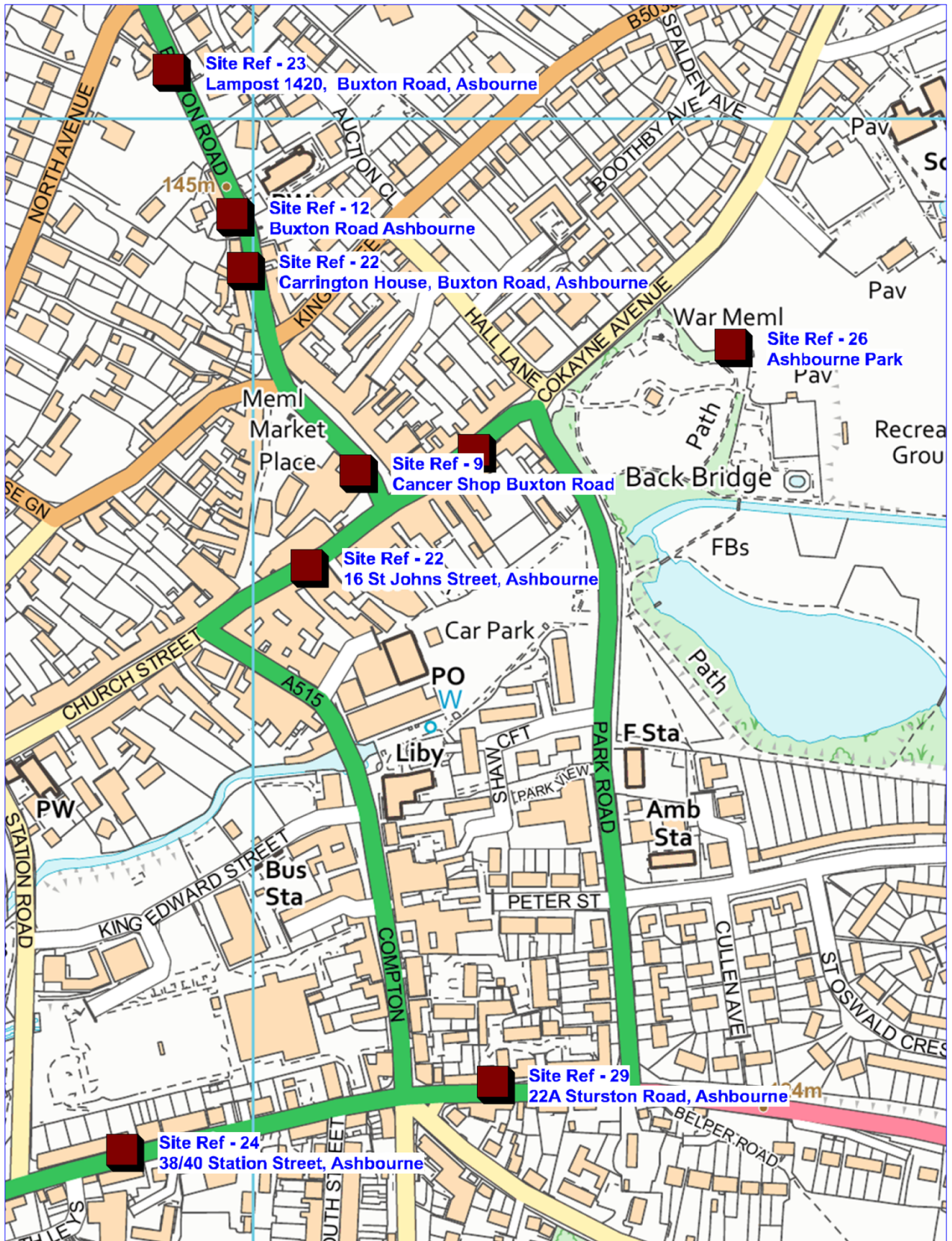
The District is situated within the East Midlands and is bounded by the local councils of High Peak Borough, Sheffield City, North East Derbyshire District, Amber Valley Borough, South Derbyshire District, East Staffordshire District and Staffordshire Moorlands District.

There is a strong tradition of agriculture and a long history of mineral extraction. Vein minerals are still extracted today, primarily to provide fluorspar for use in the chemical and steel industries and limestone is extensively quarried for aggregate. Where the purity of calcium carbonate is high, fine powders are produced for use in industries such as glass making, foodstuffs and pharmaceuticals. Light industry has developed at a number of sites, notably the Airfield Industrial Estate in Ashbourne. This heavy industry, particularly the mineral extraction industry in the area will be contributing to the high levels of oxides of nitrogen in Ashbourne as a number of quarries exist along the A515 corridor, within Derbyshire Dales and High Peak areas of Derbyshire.

Nitrogen oxide diffusion tubes continue to be deployed in 24 locations across the district and levels remain consistent for most sites. Two Air Quality Management Area's have been declared in the Derbyshire Dales. One in Cubley, now revoked, and a second one more recently in the Ashbourne area. This current AQMA is due to exceedances of the Air Quality Objectives for Nitrogen dioxide (annual average) from a diffusion tube placed on Buxton Road, Ashbourne. A detailed assessment was undertaken and a modelling assessment and report have been completed this documentation has been uploaded to the submission website. <https://www.derbyshiredales.gov.uk/environment-and-waste/pollution-noise/air-pollution/air-quality-management-areas/buxton-road-ashbourne>

Over the last two years the corrected annual average for this tube has not breached the Air Quality Objective, however, this is likely to be a result of the covid pandemic

and results still remain close to the Air Quality Objective limit. A new tube placed adjacent to the Bowling Green Public House in 2022 is showing high results and so monitoring continues and work to reduce emissions is ongoing. Below is a map of diffusion tubes locations in 2021, followed by a map of the AQMA. Buxton Road is narrow and encompasses a steep incline which exacerbates the problem. A row of cottages at the original monitoring point are within a metre of the road, and the public house at the top of the AQMA declared area is also within extremely close proximity to the road.



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# 3 Derbyshire Dales District Council's Air Quality Priorities

## 3.1 Public Health Context

The environment can impact negatively on the health and wellbeing of the population and of all the environmental factors, air pollution has the greatest impact. Current evidence indicates that air pollution is associated with cardiovascular disease, lung cancer, respiratory disease, asthma and stroke. Air pollution disproportionately affects the young, older people, those with underlying cardiopulmonary conditions and the most deprived within our communities.

Through the Local Air Quality Management (LAQM) system local authorities are required to assess air quality in their area and designate Air Quality Management Areas (AQMAs) if improvements are necessary. Where an AQMA is designated, local authorities are required to produce an air quality Action Plan describing the pollution reduction measures it will put in place. Through improving air quality we can reduce both the short term and the long term effects on people's health. It will have benefits to those who may find their conditions are made worse through exposure to air pollution, for example people with heart or lung conditions or breathing problems.

The Committee on the Medical Effects of Air Pollutants (COMEAP), has recently reviewed the evidence associating NO<sub>2</sub> with health effects and knowledge has strengthened substantially over recent years. They welcome the World Health Organisations revised Air Quality Guidelines and regard them as long term targets for the UK to inform policy development. In 2019 using the evidence from the COMPEAP report Public Health England concluded that air pollution is the biggest environmental threat to health in the UK, with between 28,000 and 36,000 deaths a year attributed to long-term exposure.

Public Health in Derbyshire sits within Derbyshire County Council and Public Health Lead officers have formed part of the internal working groups set up by the Strategic Highways section to review and identify priorities for Ashbourne. Public Health in Derbyshire also chair a Derby and Derbyshire Air Quality Working Group which reports annually to the Health and Wellbeing Board. Work undertaken includes, developing an Air Quality Strategy as a joint initiative of the Borough and District

Councils and the County Council Public Health Team, and other Departments including Highways, Planning and Sustainable Transport Teams and Sustrans.

Public Health in Derbyshire offer an overall population health outlook and the joint strategy's guiding principals have three key priorities; Seek to reduce the sources of pollution, prioritise those interventions which offer additional health benefits, and mitigate the impacts on health. Public Health messaging and action seeks to support model behaviour change to healthier lifestyles through the live life better Derbyshire program and other sustainable transport and school policies. The group maintains an annual Action Plan.

In addition, an East Midlands guide for developers to mitigate air pollution also supports this and has been produced for use across the East Midlands.

## **3.2 Planning and Policy Context**

### **3.2.1 Local Plan**

Derbyshire Dales current Local Plan (2017 – 2033) contains a raft of policies to support air quality. This includes policies to support public transport, sustainable transport, and help deliver the priorities of the Derbyshire Local Transport Plan. Policies also provide to facilitate low carbon development and sustainable energy generation.

The Council also encourages proposals that develop and extend our cycle network, and development proposals should seek to provide safe and convenient access to established cycle networks.

The District Council will seek to protect, manage, and where possible enhance the biodiversity and geological resources of the Plan Area and its surroundings by ensuring that development proposals will not result in harm to biodiversity or geodiversity interests

The commitment to climate change and air quality by Derbyshire Dales District Council, has ensured this is embedded within our planning policy, In addressing the move to a low carbon future for the Derbyshire Dales, the District Council will promote a development strategy that seeks to mitigate global warming, adapts to climate change and respects our environmental limits. This seeks to require the



effect of development to be assessed against climate impact. It requires the use of renewable and low carbon technology be prioritised in new developments.

### 3.2.2 Climate change

Tackling climate change is one of Derbyshire Dales District Council's top priorities. A pledge to make the Council carbon neutral by 2030 has been made. Derbyshire Dales District Council's in house priorities include:

#### Buildings

- Work to Council buildings, will reduce emissions through removal of gas heating and replacement with electric alternatives plus installation of solar PV panels (March 2023 target completion)

#### Transport

- Decarbonisation of our fleet (we currently have two hybrid vehicles), plans to install electric vehicle charging points this financial year to facilitate trials of suitable vehicles (March 2023 completion)
- Continuing assessment of car parks for EV charging infrastructure, work alongside Derbyshire County Council as the highways authority on a county wide approach including possible bid for LEVI funding (4 more to be installed by March 2024)

#### Energy

- Technical and financial feasibility study on small solar farms in the district now complete. Costings are being completed and if viable a build target by March 2024
- Move to a supplier of 100% renewable electricity (backed by REGOs) when our current contract permits (Oct 2022)
- Working with local community energy groups to support projects that focus on local renewable energy production, including assessing use of Council buildings and land (ongoing)
- Energy efficiency investments at Leisure Centres continue, with a £734k project at Ashbourne due to complete by December 2022 incorporating the removal of gas boilers, a building energy management system, solar PV, and battery storage

## Homes

- Ongoing housing energy efficiency upgrade projects (104 so far, 78 in progress), including beginning to consider off gas homes which may be using solid fuels as a main heating source(March 2023)
- Supporting social housing providers to access grant funding to improve energy efficiency of homes
- Energy efficiency advice offered to residents through engagement events in market towns, and an online forum
- 'Go Green' event is planned for July 2022, to focus on home emissions reductions
- Minimum Energy Efficiency Standard project targeting energy efficiency improvements in privately rented homes completed
- Energy efficient new Council [homes](#) unveiled recently, plus ongoing work to upgrade these properties beyond minimum standards

## Events

- DDDC moving towards making events 'generator free' by providing electric points in parks (2 points in currently in Matlock, and 8 further points being installed commencing in September 2022. Work to be complete by April 2023)

Further information is available at:

[https://www.derbyshiredales.gov.uk/images/C/Climate\\_Change\\_Strategy\\_and\\_Action\\_Plan.pdf](https://www.derbyshiredales.gov.uk/images/C/Climate_Change_Strategy_and_Action_Plan.pdf)

### 3.2.3 Peak District National Park

The Peak District National Park also have strategies and policy that will impact on air quality:

This includes sustainable transport policies which aims to reduce the need to travel and encourages sustainable transport, by deterring cross-park traffic, and by encouraging sustainable transport.

Policies designed to prevent development that presents a risk of pollution are also included.

### 3.2.4 Local Transport Strategy

The Derbyshire Local Transport Plan (LTP) (2012-2026) published by Derbyshire County Council sets out the strategic transport policy for the A515 in Ashbourne. Its overall vision aims to achieve a transport system that is both fair and efficient, promotes healthier lifestyles, safer communities, safeguards and enhances the natural environment and provides better access to jobs and services. The LTP has five transport goals:

- Supporting a resilient local economy.
- Tackling climate change.
- Contributing to better safety, security and health.
- Promoting equality of opportunity.
- Improving quality of life and promoting a healthy natural environment.

The LTP includes an environmental objective to support the delivery of packages of measures for improvement where there are air quality issues associated with local traffic:

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

### **3.2.5 National policy**

The Air Quality Strategy (Defra, 2007) published by the Department for Environment, Food, and Rural Affairs (Defra) and Devolved Administrations, provides the policy framework for air quality management and assessment in the UK. It provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. It also sets out how the different sectors: industry, transport and local government, can contribute to achieving the air quality objectives.

The Clean Air Strategy published in 2019 (Defra, 2019a) details the range of actions by which the UK Government seeks to reduce pollutant emissions and improve air quality. The strategy sets out how the government plans to:

- protect the nation's health
- protect the environment
- secure clean growth and innovation
- reduce emissions from transport, homes, farming and industry
- monitor progress

### **3.2.6 Reducing Emissions from Road Transport: The Road to Zero**

This strategy was published by The Office for Low Emission Vehicles (OLEV) and the Department for Transport (DfT) in July 2018 (DfT, 2018). It outlines how the government will support the transition to zero emission road transport and reduce emissions from conventional vehicles during the transition. The commitment to end the sale of new conventional petrol and diesel cars and vans is set out and how the Government anticipates that by 2050 almost every car and van should be zero emission.

If these targets are met, this will have a significant effect on road traffic-related NOx emissions.

More recently, the Government published a Decarbonisation Plan in 2021, which states *“new diesel and petrol cars and vans would no longer be sold from 2030, and that all new cars and vans must be fully zero emission at the tailpipe from 2035”*, bringing the dates significantly forward from the DfT Policy Paper.

### **3.2.7 Ashbourne reborn**

This is a large scale scheme focussing on transforming Ashbourne and has been grant funded as part of the government’s levelling up agenda. The project focusses on 2 areas of improvement, ensuring a safe and connected town centre, through a series of traffic management, pedestrian safety and public realm improvements and providing a new community hub. These improvements are seeking to improve the experience on key streets that are currently dominated by heavy goods traffic and poor air quality. New traffic management plans will be transformational to the pedestrian experience in Ashbourne, while the hub will provide a wide range of event and meeting spaces, a performance venue and flexible work areas with high quality digital provision. A new Transport Hub is planned to bring greater connectivity between transport modes and improvements in public transport and sustainable transport including walking and cycling.

See actions 5, 6, and 8 of our key priorities.

## **3.3 Source Apportionment**

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Derbyshire Dales District Council’s area.

A source apportionment exercise was carried out by Derbyshire Dales District Council (DDDC) in 2021. A further apportionment was undertaken by AECOM consultancy in Jan 2023, this is reproduced in Box 3.3.

DDDC identified that within the AQMA, the percentage source contributions were as follows:

The source apportionment exercise was undertaken using the method in Chapter 7 of Local Air Quality Management Technical Guidance (TG16). This was undertaken using 2019 as a reference year to provide a worst case scenario and a pre-pandemic picture. Data was available for a 7 day average and a weekday average and the source apportionment was run for both scenarios. This identified that the exceedance of the NO2 objective has been identified as being attributed to road transport emissions and the percentage contributions are outlined below.

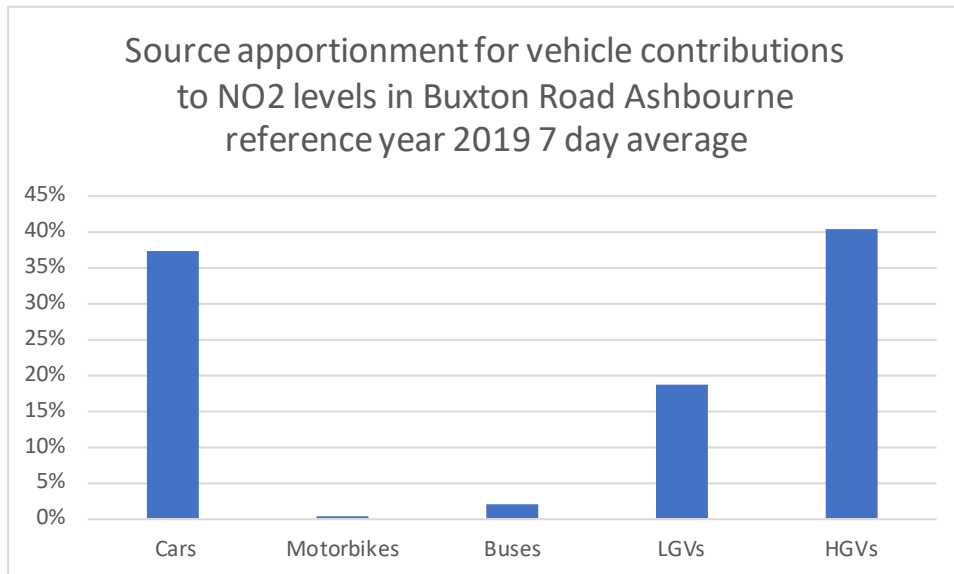
#### Traffic counts.

<b>Annual Average Weekday Vehicle Classification A515</b>												
<u>Vehicle Numbers</u>							<u>Percentages</u>					
	Cars	Motorbikes	Buses	LGVs	HGVs	Total		Cars	Motorbikes	Buses	LGVs	HGVs
2015	4865	75	39	899	1074	6952	2015	70.0%	1.1%	0.6%	12.9%	15.4%
2016	4940	74	36	990	1078	7118	2016	69.4%	1.0%	0.5%	13.9%	15.1%
2017	4951	70	33	1010	1129	7193	2017	68.8%	1.0%	0.5%	14.0%	15.7%
2018	4577	74	28	1006	1042	6727	2018	68.0%	1.1%	0.4%	15.0%	15.5%
2019	4907	82	33	1127	1128	7277	2019	67.4%	1.1%	0.5%	15.5%	15.5%

<b>Annual Average 7 Day Vehicle Classification A515</b>												
<u>Vehicle Numbers</u>							<u>Percentages</u>					
	Cars	Motorbikes	Buses	LGVs	HGVs	Total		Cars	Motorbikes	Buses	LGVs	HGVs
2015	4991	109	35	819	829	6783	2015	73.6%	1.6%	0.5%	12.1%	12.2%
2016	5070	107	32	903	831	6943	2016	73.0%	1.5%	0.5%	13.0%	12.0%
2017	5098	108	30	930	867	7033	2017	72.5%	1.5%	0.4%	13.2%	12.3%
2018	4709	110	25	930	817	6591	2018	71.4%	1.7%	0.4%	14.1%	12.4%
2019	4997	117	29	1041	873	7057	2019	70.8%	1.7%	0.4%	14.8%	12.4%

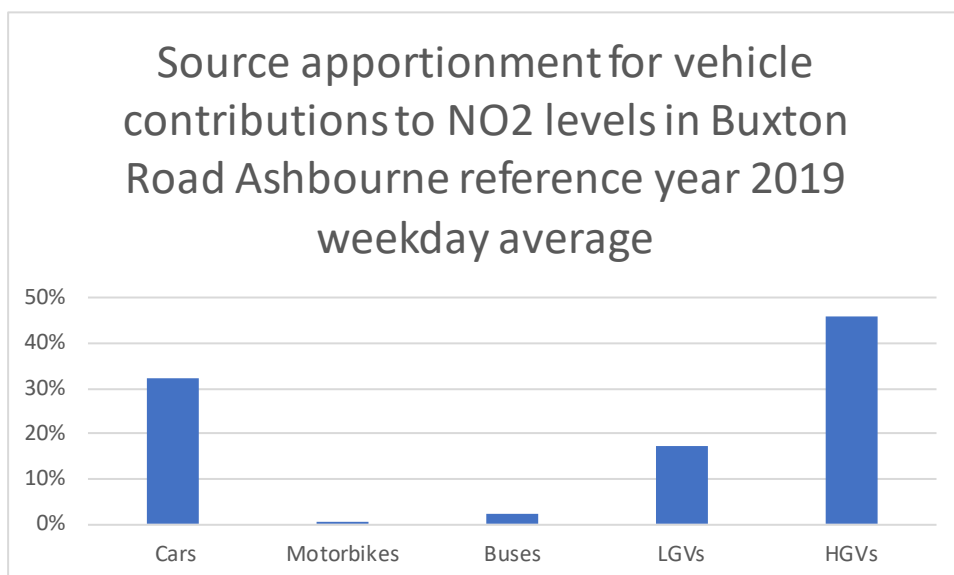
#### Results from EFT 7 day average

7 day average	Cars	Motorbikes	Buses	LGVs	HGVs
2019	37.2%	0.2%	2.1%	20.3%	40.2%
Apportionment	14.76	0.08	0.83	8.05	15.95



**Results from EFT weekday average**

Weekday average	Cars	Motorbikes	Buses	LGVs	HGVs
2019	32.2%	0.1%	2.4%	19.4%	45.9%
Apportionment $\mu\text{g}/\text{m}^3$	12.77	0.04	0.95	7.70	18.21



As can be seen the emissions are heavily influenced by HGV traffic and this is pertinent in the working week.

## **Box 3.3: Extract from Ashbourne AQMP Technical Note, Jan 2023 AECOM**

### **2 Source Apportionment**

#### **2.1 Traffic Data**

- 2.1.1 The Ashbourne Highway Assignment Model was developed by AECOM, to support the development of the Ashbourne Relief Road. The model was developed using the SATURN suite of software and is a highway assignment and simulation traffic model. The simulation area was based on the likely region of interest identified in the Appraisal Specification Report and covers an area of approximately 15km in radius centred on Ashbourne.
- 2.1.2 The model was developed for four time periods, representing the AM peak hour (0800-0900), interpeak average hour (1000-1600) and PM peak hour (1700-1800) for weekdays, and a daytime average hour (1000-1600) for weekends.
- 2.1.3 Base Year travel demands were developed from mobile phone data. The trip demand model groups trip purposes into seven separate user classes by utilising three vehicle classes: cars, LGVs HGVs. The Base Year models conformed to TAG link flow calibration, validation and journey time criteria.
- 2.1.4 Future year forecasts were developed using local development assumptions and the Department for Transport's national growth forecast.
- 2.1.5 The data from the Ashbourne Highway Assignment model was deemed the most appropriate source of future year traffic data, for the initial emissions assessment.
- 2.1.6 An interrogation of the traffic model assignment provided modelled traffic flows and vehicle proportions for Buxton Road and St John's Street.

2.1.7 For the purpose of Emissions modelling, the one hour traffic model periods were expanded to represent a 24 hour period.

**Table 2-1: Traffic Data – Buxton Road Northbound**

Time Period	Hourly Flow (veh/hr)	Cars (%)	LGV <sup>1</sup> (%)	OGV <sup>2</sup> (%)
AM	333	75.3	17.6	7.1
IP	333	74.2	11.3	14.5
PM	442	83.5	12.0	4.5
OP	59	73.6	12.1	14.3

**Table 2-2: Traffic Data – Buxton Road Southbound**

Time Period	Hourly Flow (veh/hr)	Cars (%)	LGV (%)	OGV (%)
AM	165	63.9	13.1	23.0
IP	222	71.2	9.7	19.1
PM	209	81.7	8.8	9.5
OP	39	71.4	9.7	18.9

**Table 2-3: Traffic Data – St John Street Eastbound (One Way)**

Time Period	Hourly Flow (veh/hr)	Cars (%)	LGV (%)	OGV (%)
AM	332	71.3	15.3	13.4
IP	356	73.3	11.9	14.8
PM	371	82.7	10.6	6.7
OP	66	67.9	11.0	21.1

<sup>1</sup> Note, LGV stands for Light Goods Vehicles and includes all goods vehicles up to 3.5 tonnes gross vehicle weight

<sup>1</sup> Note, OGV stands for Other Goods Vehicles and includes all goods vehicles over 3.5 tonnes gross vehicle weight

2.1.8 It is noted that the southbound demand on Buxton Road is lower than that of the northbound direction and that the OGV proportion is higher in the southbound direction. The modelling data is representative of the observed data used in the model build. It is recommended that further analysis is undertaken to understand whether this pattern occurs at a more disaggregate level, and if so, potentially engage with the local OGV operators to further understand their scheduling of movements through Ashbourne.



## 2.2 Emissions Calculations

- 2.2.1 Emissions calculations have been completed for the above three road links, using the Defra Emissions Factors Toolkit Version 11<sup>1</sup>. The traffic flows and fleet mix data for each time period as set out in Section 2.1, has been used to calculate emission rates per hour using a variety of different speeds to represent different traffic conditions in the area – this has included 5 kph to represent heavy congestion and stop start traffic conditions, 10 kph to represent slow-moving traffic, and 30 kph to represent more free flowing traffic conditions. For the purposes of the emissions calculations, the OGV percentages set out in Section 2.1 have been assumed to be HGV, to align with the input options of the Emissions Factors Toolkit.
- 2.2.2 A gradient of 14% has been applied to the flow on Buxton Road (approximately equivalent to a 1/7 slope) to represent that the northbound flows are travelling up a steep hill, and southbound flows are travelling down a steep hill.
- 2.2.3 Full details showing the breakdown of emission rates from each road within each time period in g/km/s, alongside the total daily emission in g/km from all periods, are provided within Appendix 1. Tables 2-4 to 2-6 below set out the average emission rate (g/km/s) at the speeds set out above and the percentage contribution by vehicle type.

**Table 2-4: Percentage of Hourly Emission by Vehicle Type at 5 kph**

Road Link	Cars (%)	LGV (%)	HGV (%)	Average Emission Rate (g/km/s)
Buxton Road Southbound	15%	6%	79%	0.054
Buxton Road Northbound	28%	14%	58%	0.052
St John Street	17%	8%	74%	0.082

**Table 2-5: Percentage of Hourly Emission by Vehicle Type at 10 kph**

Road Link	Cars (%)	LGV (%)	HGV (%)	Average Emission Rate (g/km/s)
Buxton Road Southbound	23%	7%	70%	0.034
Buxton Road Northbound	45%	17%	38%	0.032
St John Street	35%	13%	53%	0.040

**Table 2-6: Percentage of Hourly Emission by Vehicle Type at 30 kph**

Road Link	Cars (%)	LGV (%)	HGV (%)	Average Emission Rate (g/km/s)
Buxton Road Southbound	39%	13%	48%	0.014
Buxton Road Northbound	46%	18%	35%	0.022
St John Street	46%	18%	36%	0.021

2.2.4 Tables 2-4 to 2-6 indicate that emissions are highest when the emissions are calculated with a speed of 5 kph, representing heavy congestion conditions. A large proportion, 79%, of total vehicle emissions are from the HGVs travelling downhill (southbound) on Buxton Road. When travelling uphill (northbound) at 5 kph on Buxton Road, HGVs are also the biggest emitter, accounting for 58% of total vehicle emissions. On St John Street HGVs account for 74% of emissions.

2.2.5 With the emissions calculations based on traffic travelling at 10 kph (representing slow-moving traffic), emissions reduce overall, and HGVs become a smaller proportion. HGVs still account for approximately 70% of the total emissions from vehicles travelling downhill on Buxton Road (southbound) but make up only 38% of the total emissions when travelling uphill (northbound). At 10 kph HGVs account for 53% of emissions on St John Street.

2.2.6 With the emissions calculations based on traffic travelling at 30 kph (representing more freeflowing traffic conditions with better efficiency and lower emission rates), total emissions (presented within Appendix A) reduce by 74% compared to when calculated at 5 kph on Buxton Road (southbound), by 58% on Buxton Road (northbound) and by 48% on St John Street.

2.2.7 HGVs also account for a smaller proportion of total emissions with vehicles travelling at 30 kph – approximately 48% of the total emissions from vehicles travelling downhill on Buxton Road (southbound) and 35% of the total emissions when travelling uphill (northbound). At 30 kph HGVs account for only 36% of emissions on St John Street.

2.2.8 Within all scenarios, the inter peak period is the highest contributor to total daily emissions. In the 5 kph scenario the inter peak accounts for approximately 48% of total daily emissions on Buxton Road and 45% on St John Street.

2.2.9 In the 10 kph scenario the inter peak accounts for approximately 48% of total daily emissions on Buxton Road southbound, 45% on Buxton Road northbound and 44% on St John Street.

2.2.10 In the 30 kph scenario the inter peak accounts for approximately 47% of total daily emissions on Buxton Road southbound, 44% on Buxton Road northbound and 43% on St John Street.

## 2.3 Discussion of Results

2.3.1 The results of the source apportionment exercise have demonstrated that a large proportion of emissions are expected to be from slow moving HGVs on Buxton Road and St John Street. It also indicates that the inter peak period of the day contributed the most to total daily emissions.

2.3.2 In the AQMA, monitoring has identified a maximum annual mean NO<sub>2</sub> concentration of 57.4 µg/m<sup>3</sup> in 2019 (the last year of monitoring not impacted by covid lockdowns) at site 19, located on the 1/7 road sign opposite 5 Buxton Road<sup>1</sup>. Defra's modelled background concentration estimates<sup>1</sup> for the region estimate a background NO<sub>2</sub> concentration of 8.1 µg/m<sup>3</sup> in the area of Buxton Road. This indicates that road traffic emissions account for 49.3 µg/m<sup>3</sup> (or approximately 85%) of total concentrations of NO<sub>2</sub> at this worst-case location.

<sup>1</sup> Derbyshire Dales District Council (2021) LAQM Annual Status Report 2021. Available from: [https://www.derbyshiredales.gov.uk/images/DerbyshireDales\\_ASR2021revFinalwith\\_DPHendorcement.pdf](https://www.derbyshiredales.gov.uk/images/DerbyshireDales_ASR2021revFinalwith_DPHendorcement.pdf)

<sup>1</sup> Defra (2022) Background Mapping data for local authorities – 2018. Available from: <https://uk-air.defra.gov.uk/data/laqmbbackground-maps?year=2018>

- 2.3.3 Using this example, a reduction in concentrations of  $>17.4 \mu\text{g}/\text{m}^3$  would be needed to lower concentrations below the annual mean objective, which equates to an approximate 36% reduction in total traffic emissions.
- 2.3.4 It is recognised that site 19 is a worst-case example, and in other locations on the same road for example at site 12 (located just down this hill from site 19 on Buxton Road) measured concentrations were  $47 \mu\text{g}/\text{m}^3$  and so a smaller reduction of  $>7 \mu\text{g}/\text{m}^3$  would be needed to lower concentrations below the annual mean objective for  $\text{NO}_2$ . This equates to an approximate 17.3% reduction in total traffic emissions being required.
- 2.3.5 The above calculations at specific monitoring sites are broadly in line with the findings of the Draft Derbyshire Dales District Council AQAP<sup>1</sup> which indicated that a 20% reduction in road traffic emissions was required, though they do demonstrate that in some locations a large reduction that previously identified may be required.
- 2.3.6 The source apportionment has indicated that measures which aim to reduce HGV numbers within the AQMA, in particular during the interpeak period, will have a benefit to emissions and local air quality.
- 2.3.7 The source apportionment has also indicated that measures which reduce stop-start and congested traffic conditions and allow traffic to operate at more free flowing speeds will have a benefit to emissions and local air quality.
- 2.3.8 Given the percentage of emissions associated with HGVs and the potential reduction in emissions associated with improved speeds, measures that achieve the above two outcomes of reducing HGV numbers and optimising speeds have the potential to reduce concentrations of  $\text{NO}_2$  by the greatest amount. Depending on the baseline speeds there is potential that such a reduction could be sufficient such that annual mean concentrations would be reduced below the annual mean objective value.

2.3.9 Whilst the Traffic Model provides the most appropriate data source for this initial assessment, given the demonstrated sensitivity of the emissions and air quality results, more disaggregate observed data will be required to inform a detailed quantitative assessment. The most appropriate tool to support this assessment, would be a micro-simulation model of the route with corresponding transient emissions module. This would allow for better representation of the route, reflecting gradients and link friction (on-street parking, pedestrian crossing etc) and analysis of varying interventions in terms of vehicle behaviour and emissions.

### 3.4 Required Reduction in Emissions

In line with the technical guidance TG22 a calculation of reduction in emissions has been calculated. This has equated to a 20% reduction in road emissions.

Step 1:

NO<sub>2</sub> local background 7.3µg/m<sup>3</sup>

Step 2 & 3						
Local Authority:			DDDC		Year: 2019	
					Traffic Mix 0	
Site ID	Diffusion coefficient µg m <sup>-3</sup>	Background µg m <sup>-3</sup>		d NO <sub>x</sub> , µg	defined local	Notes
		NO <sub>x</sub>	NO <sub>2</sub>			
12	47	9.4	7.3	83.37		Step 2
12	40	9.4	7.3	66.46		Step 3

Step 4

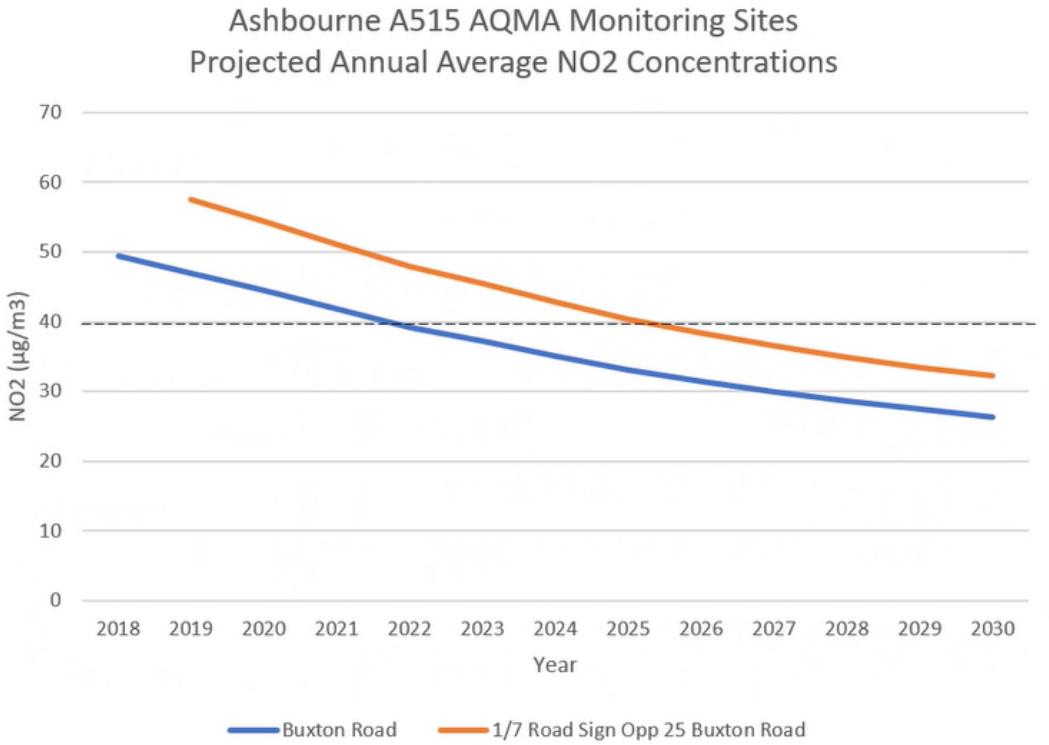
83.37 - 66.46 = 16.91µg/m<sup>3</sup>

16.91/83.37x100 = 20%

Result 20%

Projected annual average roadside NO<sub>2</sub> concentrations have also been calculated by Derbyshire County Council using DEFRA's Roadside NO<sub>2</sub> Projection Factors

featured within their LAQM guidance. <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/roadside-no2-projection-factors/>



Annual average NO2 levels were taken from Derbyshire Dales District Council’s 2020 Air Quality Annual Status Report

<https://www.derbyshiredales.gov.uk/images/DerbyshireDalesDCASR2020.pdf>

2019 was used as the base year for the projection calculations at both sites, as that provided the most up to date pre covid-19 full year of data.

The ‘Rest of the UK (More than 10% HDVs)’ factor was applied as Derbyshire County Council traffic counters indicated an average of 11% HDVs between 2017 and 2019 on the A515 north of the monitoring sites.’

### 3.5 Key Priorities

#### Medium Term County Council Priority Action – Develop proposals for delivery of A515 Ashbourne Relief Road

Derbyshire County Council Cabinet approved a preferred option for a Western Relief Road in 2021. This option has also been assessed as most likely to help resolve air quality issues by reducing the volume of traffic through the town centre (particularly

northbound). The Council is carrying out work packages to bring forward the proposal in the medium term. Next steps are to prepare a planning application and commission the necessary supporting reports, and execute a preliminary scheme design. Following this there will be a land assembly phase and a design and construction phase.

**Action 1: Investigate the use of Urban Traffic Management Control to optimise traffic flows within Ashbourne town centre**

The Department for Environment, Food and Rural Affairs (DEFRA) recognises that Urban Traffic Management Control (UTMC) computerised systems are being used throughout the UK to improve the flow of traffic in towns. Where these systems are optimised, there are shorter journey times, reduced frequency of congestion periods, and lower pollutant emissions are likely. The County Council's UTMC is becoming operational in 2023 and the use of this system will be investigated by Derbyshire County Council's specialist transport consultants for optimising existing levels of HGVs and other motorised vehicles across the town centre. The development stage of this project will consider whether additional traffic control measures are required for the UTMC to be most effective within the AQMA. This Action would consider the effectiveness of town centre HGV weight restrictions put forward by stakeholders.

**Action 2: Investigate town centre priority or capacity changes to improve heavy good and other vehicle flows on A515 Buxton Road, Ashbourne**

Positive changes to driver behaviour, where there are fewer accelerations or decelerations provides an opportunity to make a positive impact on air quality. HGVs and other motorised vehicles have been observed to be impeded from a smooth driving style on the A515, particularly from conflict between northbound traffic and southbound congestion during busy times. This action will consider whether giving priority to southbound traffic to free-flow through either, or both, the A515 Buxton Road/ St Johns Street junction and A515 St Johns Street junction/ Park Road has a material impact on driving styles both northbound and southbound. This assessment will consider air quality emissions associated with HGVs and other motorised vehicles, which in combination delivers lower pollutant emissions. This Action will also consider road safety implications of any changes.

**Action 3: Influence route selection via live traffic information systems**

The A515 is a principal County route for western Derbyshire connecting primary route destinations of Ashbourne and Buxton, and the national strategic network via the A50 at Sudbury. There are no current alternative appropriate diversionary routes available along the A515 corridor to divert traffic away from travelling through Ashbourne town centre. This has scoped out opportunities to introduce traffic regulation orders to physically restrict HGVs vehicles travelling through the town centre; at least before the proposed relief road is delivered. However, there could be opportunities to influence the choice of route for longer distance trips by HGVs and other vehicles by providing journey live traffic information before, or early in their journey. To assist implementation of this Action, the Council has made a funding bid to DEFRA to secure grant funding to develop an air quality function within its UTMC to enable road users to access automated alerts and live traffic information to influence choice of journey route when air pollution is (modelled) as building within the town centre.

#### **Action 4: Investigate tree canopy pollution dispersal**

Where there is a high density of tree canopy cover, the flow of air may be reduced and constrain the dispersal of pollutants by intensifying a 'street canyon' effect. DDDC are taking an opportunity to reduce the density of tree cover by removal of diseased trees and the lifting of the general tree canopy, and removal of re-growth from previously removed tree canopy. The effectiveness of the tree work will be monitored to establish if any further tree pruning is required.

### **Air Pollution Preventative Measures**

#### **Action 5: Active Travel Promotion**

DEFRA air quality guidance states that increasing walking and cycling can help improve air quality, combat climate change, improve health and wellbeing, and tackle congestion on our roads. Over half of all residents both live and work in the town and, therefore, there is good potential to improve encourage as many people as possible who currently drive very short journeys to walk or cycle instead.

#### **Action 5a) St John Street and Dig Street/Compton Public Realm**

This Action will seek to improve the town centre public realm by widening footways and improving active travel connectivity in collaboration with the "Ashbourne Reborn"



Levelling Up Fund proposals, and a Traffic Regulation Order to make Dig Street/ Compton one-way for traffic.

### **Action 5b) Mobility Hub**

Provision of a high-quality transport hub is embedded within the Community Hub proposals of the 'Ashbourne Reborn' Levelling Up Fund Bid. Funding of the transport hub would facilitate seamless integration between a range of modes of transport including provision of cycle parking and electric cycle charging points at the town centre node of the north-south Tissington Trail Key Cycle Route. (See also Action 8b).

### **Action 6: Electric Vehicle Charging Points**

There is wide Government and local policy support for a transition to zero emission vehicles and better air quality by supporting further installation of charge-point infrastructure. Although there is concern over HGV emissions on the A515, there is also a good opportunity to support emission reduction from a transition to zero emission vehicles where a significant proportion of vehicles are not HGVs. A County Council commissioned demand study (2022) has identified a need for additional charging points in Ashbourne to those already provided in Shawcroft Car Park. The County Council has already embedded a proposal to provide additional charging points within a 'mobility hub' contained within the proposed Community Hub associated with the "Ashbourne Reborn" Levelling Up Fund bid. The County Council is also undertaking soft market testing with commercial charge-point providers in advance of tendering for commercial providers to assist with implementation of further charge-points across the County from early in 2023.

### **Action 7: Business and School Travel Planning**

DEFRA air quality guidance notes that implementation of behavioural change measures can support a reduction in trips by car by switching to more sustainable and active forms of transport, including cycling and walking. The Action Plan seeks to undertake measures including:-

#### **Action 7a) Workplace travel plans**

The County Council's sustainable travel team to provide advice to businesses and new developments to encourage greater use of more sustainable modes.

### **Action 7b) School travel plans**

The County Council is encouraging all schools in Derbyshire to sign-up to Modeshift STARS (a centre of excellence for delivery of effective travel plans) including those in Ashbourne. The County Council's sustainable travel team has already begun to work with teachers and pupils directly at one Ashbourne primary school to encourage greater use of sustainable travel modes and to formalise these in a School travel plan (STP).

### **Action 7c) School Streets**

School Street schemes offer a proactive solution for communities to tackle air pollution and improve road safety around schools. Under these schemes, during term time, streets are closed to through traffic and have parking restrictions at school pick-up and drop-off times. Access is maintained for residents and other requirements. The schemes can reduce the number of people driving their children to school by up to a third.

The County Council is currently seeking a view from all schools in Derbyshire about demand for implementing School Streets. The Council is seeking funding from the Government's Active Travel Capability and Ambition Fund to pilot development of school street proposals and is actively engaging with one Ashbourne Primary School to work scope out a proposal.

### **Action 8: Bus Service Improvement Plan (BSIP) implementation**

Promoting and improving public transport is integral to increasing the number of local journeys being undertaken by sustainable travel modes. Ashbourne is currently served by one commercial service with connections to Uttoxeter and Derby. This is supplemented by subsidised services linking to Buxton, Leek, Belper, Wirksworth and Matlock. There is also the Ashbourne Derbyshire Connect demand responsive service for residents who are unable to access the conventional bus service routes. The County Council has successfully secured Government funding to implement its BSIP, it is intended that early actions in support of the BSIP will include:-

### **Action 8a) Bus priority**

Increase bus performance in terms of punctuality, reliability and journey times by using automated bus location systems in conjunction with the UTMC system to prioritise late running buses through traffic signalised junctions in the town centre.

### **Action 8b) Mobility hub**

Provision of a high-quality transport hub is embedded within the Community Hub proposals of the 'Ashbourne Reborn' Levelling Up Fund Bid. Funding of the transport hub would facilitate seamless integration between a range of modes of transport including information about scheduled bus services and Demand Responsive Transport. (See Action 5b also).

### **Action 9: Engagement with minerals and logistics companies**

Both Councils can collaborate with other organisations and businesses to encourage and support change for more efficient transport operations. We know the A515 is an important route for minerals haulage and there are opportunities to engage with mineral site operators through site planning and monitoring e.g. through local liaison committees. We know several companies are embracing lower emission vehicles to support efficiency of operation and there are opportunities to work together in partnership to embrace new technologies as they come forward. Further information about the importance of the A515 as a freight corridor will also be gathered to help develop a more effective and focused approach to provide messaging about air quality issues in Ashbourne.

## **4 Development and Implementation of Derbyshire Dales District Council AQAP**

### **4.1 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 4.1.

- Website incorporating relevant documentation

- Articles in local newspaper
- Questionnaires publicised via use of postcards with QR codes in AQMA area
- Drop in sessions for affected people ie in AQMA

The response to our consultation stakeholder engagement is given in

## Appendix A: Response to Consultation

Appendix B: Response to Consultation.

**Table 0.1 – 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	Yes

## 4.2 Steering Group

The Steering group is made up of representatives from the Strategic traffic team at Derbyshire County Council, the Regulatory Services Department of Derbyshire Dales District Council, Ashbourne Town Council and Ashbourne Town Team. Information has come through from local resident through these stakeholder members. The Strategic Transport Team at Derbyshire County Council has taken the measures presented and combined them with in house suggestions and through internal focus groups selected their preferred and most appropriate measures. Internal focus groups consisted of mineral planning, highways and public health colleagues.

## 5 AQAP Measures

Table 5.1 shows the Derbyshire Dales District 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 0.1 – Air Quality Action Plan Measures**

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	Investigate the use of Urban Traffic Management Control to optimise traffic flows within Ashbourne town centre	Traffic Management	Strategic highway improvements/congestion reduction	2022	March 2023	Derbyshire County Council	Derbyshire County Council (DCC)	No	Funded	£100-500k	Implementation	Reduction in stationary traffic, and stop start of vehicle travelling uphill Emissions calculations have shown improvements between vehicles travelling at 5 kph (representing start stop/heavy congestion) and vehicles travelling at 30 kph on Buxton Road (representing free flowing traffic). This change in speed provides an indicative 48-74% reduction in emissions over the day when comparing 5 kph to 30 kph on Buxton Road (north and south	Reduction in measured pollutant	UTMC is now operational and further functionality of the system is being investigated by transport consultants to look at alternative control measures to maximise the effectiveness of traffic controls in the AQMA	None

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
												bound) and St John Street.			
2	Investigate town centre priority or capacity changes	Traffic Management	Strategic highway improvements / congestion reduction	<Insert year>	<Insert year>	Derbyshire County Council/consultant services	DCC	No	<Insert funding status>	£100-500k	Planning	Reduction in Stationary Traffic, Emissions calculations have shown improvements between vehicles travelling at 5 kph (representing start stop/heavy congestion) and vehicles travelling at 30 kph on Buxton Road (representing free flowing traffic). This change in speed provides an indicative 48-74% reduction in emissions over the day when comparing 5 kph to 30 kph on Buxton Road (north and south	Reduction of emission in vehicles	Consultants putting together specifications , costings and timescales Traffic Model being developed	



Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
												bound) and St John Street.			
3	Pre-emptive travel advice	Traffic Management/public information	Congestion reduction/app based communication	2022	March 2023	Derbyshire County Council	DDC	No	Funded	<£10k	Implementation	Reduction in Stationary traffic, reduction in congestion	Reduction of emission from vehicles	App currently being developed and being linked to variable messaging signs	
4	Investigate improved tree canopy pollution dispersal	Policy Guidance and Development Control	Air Quality policy	2022	March 2023	Derbyshire Dales district Council/Derbyshire County Council	DDDC	No	Funded	<10k	Implementation	Better airflow in target area	Reduction in measured pollutant	Work commissioned	
5	Active travel promotion	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023		Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£10-50k	planning	Increased walking to and from the town centre by residents	TBC	Bid for funding being co-ordinated by DDDC, funding being announced Autumn 2022	
5a	Public realm	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023		Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£1m-10m	planning	Increased walking to and from the town centre by residents	TBC	Bid for funding being co-ordinated by DDDC, funding being announced Autumn 2022	
5b	Mobility Hub	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023		Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£50-100k	planning	Increased walking to and from the town centre by residents	TBC	Bid for funding being co-ordinated by DDDC, funding being announced Autumn 2022	
6	Electric vehicle charging points	Promoting low emission transport	Procuring alternative Refuelling infrastructure	2019	2025	Derbyshire County Council/DDDC	LUF2022	No	Grant Funded	£10-50k	Planning/implementation	Increase uptake of electric vehicles and	Increased installation of EV charging points	New study commissioned by DCC to assess demand has identified the need for	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
			to promote Low Emission Vehicles, EV recharging									use of charging points		additional charging points and will be part of the 5b mobility hub.	
7	Business and School Travel Planning	Promoting Travel Alternatives	School travel plans Intensive active travel campaign & infrastructure	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	£10-50k	Implementation		TBC	ongoing	
7a	Workplace travel plans Promotion	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	Ongoing work	Ongoing work	Derbyshire County Council	Derbyshire County Council	No	Funded	£10-50k	Implementation		TBC	ongoing	
7b	School travel plans	Promoting Travel Alternatives	School travel plans Intensive active travel campaign & infrastructure	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	£10-50k	Implementation	Increased walking to and from school	TBC	ongoing	
7c	School Streets	Promoting Travel Alternatives	School travel plans Intensive active travel campaign & infrastructure	Investigate demand for initiative		Derbyshire County Council	Grant funding from Active Travel Capability and Ambition Fund	No	Grant Application	£10-50k	Planning	Increased walking to and from school	TBC	Early stage of development	
8	Bus Service Improvement Plan implementation	Transport Planning and Infrastructure	Bus route improvements	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	£100-500k	Implementation		TBC	ongoing	

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
8a	Bus priority	Promoting Travel Alternatives	Bus route improvements	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	£100-500k	Implementation		<Insert KPI>	ongoing	
8b	Mobility Hub	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023		Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant bid submitted	£100-500k	planning	Increased walking to and from the town centre by residents		Bid for funding being co-ordinated by DDDC, funding being announced Autumn 2022	Funding provision
9	Continue engagement with local mineral and logistics companies	Promoting Low Emission Transport/public information	Company Vehicle Procurement - Prioritising uptake of low emission vehicles /other	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	<£10k	Implementation		<Insert KPI>	ongoing	
Medium term priority	Continue to develop proposals for a relief road	Traffic Management	Strategic highway improvements /traffic reduction	2022	2027	Derbyshire County Council Strategic Transport	<Insert funding source e.g. Developers & highway infrastructure funding>	No	Funding being sought		Planning Application and supplementary reports	Significantly reduce Heavy Goods Vehicles	Traffic data from fixed and non-fixed monitoring locations concentration at z>	Approved route agreed Planning application to be submitted as next step including preparation of supplementary reports	Planning timescale is not fixed and could cause delays funding and land assembly may introduce delays

## 5.2 Impact Rating of Action Plan Measures undertaken by AECOM, Jan 2023

5.2.1 Table 5.2 below presents the impact rating of all measures included within the Derbyshire District Council draft AQAP. Qualitative and quantitative comments regarding the potential impact of measures on local air quality have been included. The indicative impact rating of each measure has been generated by assigning each Action Plan measure an indicative rating for potential Air Quality impacts (5 = largest benefits, 1 = lowest benefit) and potential costs (Figure 3-1). In addition, an assessment of likely timescale for intervention implementation and the timescale for Air Quality impacts to be realised has been included using the following criteria:

**Table 3-1: Score Definitions**

Score	Timescale	Cost
1	> 3 years	> £500,000
2	2-3 years	£100,000 - £500,000
3	1-2 years	£50,000 - £100,000
4	6 months – 1 year	£10,000 - £50,000
5	< 6 months	<£10,000

5.2.2 Each proposed measure below is considered individually. It is not considered likely that any one measure alone would be sufficient to improve air quality to concentrations below the air quality objective value. However, a number, or all, of these measures introduced together could lead to changes such that air quality improves to concentrations below the objective.

5.2.3 It is also noted that a number of these measures refer to investigating the potential of the measure to consider the potential improvement that may be obtained and the costs and logistics of implementation. The anticipated costs and benefits associated with these measures can be updated and refined as more detail on these measures are defined. As such, a conservative approach to ascribing air quality benefits to these types of measures has been adopted with regards to the ratings given in Table 5.2.

5.2.4 The impacts ratings assigned are based on the measures as currently described within the Action Plan. For those measures where a quantitative Air Quality Impact has been described, this is theoretical and based on estimates of speeds which have been included within the emissions calculations as a means of demonstrating the potential for improvements in air quality from a measure.

3.1.5 In some instances, it would be possible to ascribe a greater Air Quality Benefit Rating to the measure if more certainty on what could be achieved via the measure was developed – for example with regard to reducing HGV numbers from Mineral and Logistics Companies, if it were possible to reduce a set number of HGV movements, it would be possible to demonstrate through more detailed emission calculations the benefit that could be achieved. Similarly, if further speed data was gathered it would be possible to provide a more accurate estimate of potential improvements in emissions.

**Table 5.2: Impact Review of proposed measures prepared by AECOM on behalf of Derbyshire Dales District Council and Derbyshire County Council.**

**Table 3-2: Impact Review of Proposed Measures**

Action Plan Measure No.	Measure Description	Cost Estimate	Air Quality Impacts (Qualitative)	Air Quality Impacts (Quantitative)	Cost Rating	Air Quality Benefit Rating	Timescale for Implementation	Timescale for Impact	Impact Rating
1	Investigate the use of Urban Traffic Management Control to optimise traffic flows within Ashbourne town centre	£100-500k	Traffic light timing could be used to reduce the stop/start traffic and congestion on Buxton Road, improving air quality in this location. This may result in moving congestion from Buxton Road to St John Street and as such could increase pollutant concentrations on St John Street and other roads. This measure would allow for dynamic management of congestion.	Emissions calculations have shown improvements between vehicles travelling at 5 kph (representing start stop/heavy congestion) and vehicles travelling at 30 kph on Buxton Road (representing free flowing traffic). This change in speed provides an indicative 48-74% reduction in emissions over the day when comparing 5 kph to 30 kph on Buxton Road (north and south bound) and St John Street. <sup>7</sup>	2	2	3	3	10
2	Investigate town centre priority or capacity changes to improve heavy goods and other vehicle flows on A515 Buxton Road, Ashbourne	£100-500k	Town centre priority and capacity changes could be used to reduce the stop/start traffic and congestion on Buxton Road, improving air quality in this location. This may result in moving congestion from Buxton Road to St John Street and as such could increase pollutant concentrations on St John Street and other roads.	Emissions calculations have shown improvements between vehicles travelling at 5 kph (representing start stop/heavy congestion) and vehicles travelling at 30 kph on Buxton Road (representing free flowing traffic). This change in speed provides an indicative 48-74% reduction in emissions over the day when comparing 5 kph to 30 kph on Buxton Road (north and south bound) and St John Street. <sup>7</sup>	2	3	4	4	13
3	Influence route selection via live traffic information systems	<£10k	This measure could be used to reduce total traffic travelling through the AQMA which would have an associated improvement in air quality.	Air quality monitoring from before and after the introduction of the intervention could show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>	5	1	1	3	10
4	Investigate Improved Tree Canopy Pollution Dispersion	<£10k	This measure allows for better dispersion of pollutant emissions from vehicles travelling on Buxton Road. The work to cut back the vegetation and tree canopy is now complete.	Ongoing monitoring within the AQMA can be used to evaluate the improvement in air quality achieved from implementing this measure.	5	1	5	5	16

Action Plan Measure No.	Measure Description	Cost Estimate	Air Quality Impacts (Qualitative)	Air Quality Impacts (Quantitative)	Cost Rating	Air Quality Benefit Rating	Timescale for Implementation	Timescale for Impact	Impact Rating
5	Active travel promotion	£10-50k	This measure can be used to reduce traffic flow in the peak period during which congestion generally occurs, and can as a result improve air quality.	Air quality monitoring from before and after the introduction of the intervention could show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>	4	2	4	2	12
5a	St John Street and Dig Street/Compton Public Realm	£2M	This measure will benefit the air quality where road traffic is moved further from receptor locations and may also result in small reductions in overall traffic flows and emissions.	Emissions calculations can be used to inform the detailed design of this measure.	1	1	3	3	8
5b	Mobility hub	£50-100k	A high-quality transport hub, providing real time travel information and links to other transport such as cycling and walking routes, can be used to support reduced traffic flows in the peak period, during which congestion generally occurs, and can as a result improve air quality.	Air quality monitoring from before and after the introduction of the intervention could show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>	3	1	3	2	9
6	Electric vehicle charging points	£10-50k	Increasing use of electric vehicles can lead to reductions in air pollution. This measure supports the aim of moving towards net zero carbon emissions but is unlikely to have a measurable impact on air quality as an isolated measure.	Air quality monitoring from before and after the introduction of the intervention could show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>	4	1	4	2	11
7	Business and School Travel Planning including: 7a) Workplace Travel Plans 7b) School Travel Plans 7c) School Streets	£10-50k	This measure can be used to reduce traffic flows in the peak period, during which congestion generally occurs, and can as a result improve air quality.	Air quality monitoring from before and after the introduction of the intervention could show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>	4	2	4	2	12
8	Bus Service Improvement	£100-500k	This measure can be used to reduce traffic flow by encouraging modal shift and can	Air quality monitoring from before and after the introduction of the intervention could	2	2	3	2	9

Action Plan Measure No.	Measure Description	Cost Estimate	Air Quality Impacts (Qualitative)	Air Quality Impacts (Quantitative)	Cost Rating	Air Quality Benefit Rating	Timescale for Implementation	Timescale for Impact	Impact Rating
	Plan (BSIP) implementation including: 8a) Bus priority 8b) Mobility hub		as a result reduce flows and improve air quality.	show the effect of this intervention. Traffic data could be collected before and after the introduction of the intervention and the effect on air quality could be subsequently modelled. <sup>8</sup>					
9	Continue Engagement with Local Mineral and Logistics Companies	<£10k	This measure can be used to reduce HGV traffic flows by encouraging alternative routing or scheduling and can therefore improve air quality.	Emissions calculations have shown that HGVs are responsible for a large proportion of total emissions. This estimated proportion ranges depending on the speed of vehicles and the incline they are travelling on, from 35 to 79% of vehicle emissions.	5	1	3	2	11

## Appendix A: Response to Consultation

## Appendix B: Response to Consultation

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

Consultee	Category	Response
<Insert consultee e.g. Chamber of Commerce>	<Insert category e.g. Business>	<Insert text e.g. Disagree with plan to remove parking on High Street in favour of buses and cycles; consider it will harm business of members>



## Appendix B: Reasons for Not Pursuing Action Plan Measures

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

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
Traffic Management	Permanent or time-limited weight restriction on A515 through Ashbourne town centre.	Although the Council’s guidance allows for weight restrictions to be introduced for environmental reasons, a weight restriction on the A515 in Ashbourne is not considered appropriate due to the lack of a better, reasonable and convenient alternative being available. Weight restrictions could be considered when the Relief Road is in place and an appraisal will take place of other strategic roads locally which may have a positive benefit to air quality in the town and Buxton Road.

Traffic Management	20mph Zone – A515 or town-wide	The Council’s guidance currently only prioritises a sparingly introduction of 20mph zones where they are primarily focused on tackling an evidenced casualty issue, rather than for environmental reasons. Whilst at this time this is not planned in Ashbourne pilot schemes of 20mph zones are planned at 2 locations in Derbyshire to assess the impact and as part of a wider appraisal process this will be considered as part of Action 2.
Traffic Management	Controlled residents’ parking scheme for properties on A515.	Small scale residents’ parking schemes are not considered appropriate for implementation because they need to be of a scale to avoid displacement of parking issues to adjacent streets. Residents’ parking schemes are also expected to cover several hundred households to provide value for money associated with operational costs including enforcement.

Promoting Travel Alternatives	Extension of Key Cycle Networks (KCN).	The Tissington Trail Key Cycle Network route already provides a high quality off-road inter-urban cycle route to and from Ashbourne and rural communities broadly along the A515 corridor. Consider that promotion of use of existing infrastructure for active travel would support more modal shift to cycling and walking in the town centre.
Traffic Management	Local congestion charge/ Clean Air Charging Zone	Clean Air Zone charging is not currently identified within the Council's strategies as an intervention which demonstrates local ambition and support.
Traffic Management	Introduce traffic signal control at Windmill Lane junction and St John's Street junction to control movement of traffic through the AQMA.	Introducing traffic control to platoon traffic through the AQMA is considered undeliverable in this location because forward visibility for emergency vehicles cannot be achieved for safe passage under blue lights. Holding traffic back to travel through AQMA in platoons would increase queuing within the town centre and potentially displace air quality issues elsewhere.

Traffic Management	Create a one-way gyratory system utilising existing A515 southbound and B5034 North Avenue/Dove House Street/Union Street northbound.	No clear benefit to improving air quality within the town centre due to potential to displace air pollution to other parts of the town centre.
Traffic Management	Revise route signage	Existing local road network signage is considered appropriate to direct traffic to most suitable route. Route signage would be reviewed when Relief Road is in place. Action Plan includes measures to consider providing additional driver information when congestion levels are exceeding agreed thresholds.
Traffic Management	Traffic calming on A515	The Council only introduces traffic calming where there is clear justification on the grounds of road safety because physical calming measures are not well supported as they invariably cause increased noise and vibration. Therefore, traffic calming is not considered appropriate on the A515 where there are high numbers of heavy goods vehicles.

Traffic Management	Move controlled crossing from near the Market Place to between Union Street and King Street.	The pedestrian crossing is currently located where there is likely to be most demand for crossing across the A515. No clear benefit to air quality by considering moving the pedestrian crossing.
Promoting Low Emission Transport	Alternative fuels for heavy goods vehicles.	Advances in new fuel technologies such as hydrogen for heavy goods vehicles are being tracked for potential introduction of supporting infrastructure in Derbyshire. However, there are no specific proposals that are considered deliverable in Ashbourne in the short to medium term.
Traffic Management	Extend 30mph speed limit on approach to Ashbourne.	No clear benefit to improved air quality within the A515 Ashbourne AQMA from changing speed limits on the approaches to Ashbourne.
Traffic Management	Close access to MarketPlace car park from Union Street.	No clear benefit to improving air quality within the A515 Ashbourne AQMA.
Traffic Management	Hall Street – introduce one- way	No clear benefit to improving air quality within the A515 Ashbourne AQMA. Maintaining the operation of Hall Street would be considered as part of Action 3.

Traffic Management	Introduce left-turn only from North Avenue and Windmill Lane.	No clear benefit to improving air quality within the Ashbourne AQMA.
Promoting Travel Alternatives	Park and ride	There is no opportunity at present to consider public transport related park and ride on the approach to Ashbourne given the lack of opportunity to provide bus priority on the A515. Action 11 could consider park and cycle ride associated with Tissington Trail.

## Appendix C:

### 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 <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

## References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Ashbourne Air Quality Area Action Plan Preparation, Highways Assets and Transport. Executive Director, Place 2022.  
<https://democracy.derbyshire.gov.uk/ieDecisionDetails.aspx?ID=316>
- <https://www.derbyshiredales.gov.uk/environment-and-waste/pollution-noise/air-pollution/air-quality-management-areas/buxton-road-ashbourne>
- <https://www.derbyshiredales.gov.uk/your-council/news-and-publications/latest-news/3605-first-new-derbyshire-ales-council-house-unveiled>
- [https://www.derbyshiredales.gov.uk/images/C/Climate\\_Change\\_Strategy\\_and\\_Action\\_Plan.pdf](https://www.derbyshiredales.gov.uk/images/C/Climate_Change_Strategy_and_Action_Plan.pdf)
- Ashbourne AQMP Technical Note. Jan 2023. Prepared by AECOM Infrastructure & Environment UK Limited



