

Derbyshire Dales District Council

Air Quality Action Plan

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

May 2024



Derbyshire Dales District Council

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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. This is our first action plan and it outlines the action we will take to improve air quality in Derbyshire Dales District 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^{1,2}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion³. 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
 - Bus Service Improvement Plan (BSIP) implementation, which includes bus priority
 - St John Street and Dig Street/Compton Public Realm Improvements
 - Mobility Hub provision
- Policy guidance and development control

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

- Business and School Travel Planning
- Engagement with minerals and logistics companies
- Investigate improved tree canopy pollution dispersal
- Promoting low emission transport
 - Electric Vehicle Charging Points provision
- Promoting travel alternatives
 - Active Travel Promotion
 - Business and School Travel Planning
 - Mobility Hub provision
- Public information,
 - Active Travel Promotion
 - Business and School Travel Planning
- Transport planning and infrastructure
 - Use of an Intelligent Transport Management System
 - Engagement with minerals and logistics companies
 - Relief Road Planning (medium term measure)
- Traffic management
 - Use of an Intelligent Transport Management System
 - Bus Service Improvement Plan (BSIP) implementation, which includes bus priority

The majority of emissions 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 desirable option to secure a medium to long-term reduction in heavy goods vehicles (HGVs) travelling through the town centre, and consequential long-term air quality improvement. Derbyshire County Council are committed to progressing an A515 Relief Road, but this is considered a longer-term

mitigation measure. A western relief road alignment has been found to be the preferred route for existing HGVs and other vehicles. Work streams are ongoing to progress this option, and there are a number of statutory work packages that are needed to be completed ahead of delivery of a A515 Ashbourne Relief Road, including planning and land assembly. 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. The main aim of this AQAP prior to the progression of a relief road is to tackle air pollution by the smoothing of traffic flow through the town as detailed later. This will be supported by wider measures to facilitate more active travel through infrastructure projects and policy. Improved pollution dispersion by tree maintenance will also be undertaken. Some tree removal has been undertaken and this appears to show positive results from monitoring undertaken.

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 Dales District Council's direct influence.

Responsibilities and Commitment

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

Director Place and Economy, Derbyshire Dales District Council

Environmental Health Manager, Derbyshire Dales District Council

Environmental Health Officer, Derbyshire Dales District Council

Assistant Director Highways Commissioning, Derbyshire County Council

Assistant Director Regeneration and Major Projects, Derbyshire County Council

Derbyshire Dales District Council

Head of Strategic Transport and Sustainable Travel, Derbyshire County Council

This AQAP has been approved by:

Community and Environment Committee, Derbyshire Dales District Council.

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 Community and Environment Council Committee as required. Progress each year will be reported in the Annual Status Reports (ASRs) produced by 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 Derbyshire Dales District Council, Town Hall, Bank Road, Matlock, Derbyshire DE4 3NN

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1 Introduction

This report outlines the actions that Derbyshire Dales District Council have and will deliver between 2023-2027 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. In addition, the County Council and District Council will meet regularly and will report to the Community and Environment Committee as required. A steering group involving Ashbourne Town Council and other local partners will also continue to meet periodically.

2 Summary of Current Air Quality in Derbyshire Dales District Council

Please refer 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, limestone is extensively quarried for aggregate, and 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. The mineral extraction industry in the area and other industry contribute 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.

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 Ashbourne. This current AQMA was declared due to exceedances of the Air Quality Objectives for nitrogen dioxide (annual average) from a diffusion tube (DT12) placed on Buxton Road, Ashbourne. See Appendix C for maps of monitoring locations. The designated AQMA incorporates Buxton Road, Ashbourne from the Windmill/North Lane junction to the junction of St Johns Street and St Johns Street from the junction of Cokayne Avenue and Park Road to 22 St John's Street. This is the area modelling for the Detailed Assessment deemed at risk of exceeding 36µg/m³. The area with the exceedance of the Air Quality Objective on Buxton Road is classified as an A road and the primary route from Ashbourne to Buxton as designated by the Department for Transport. The

area of greatest concern is a section of Buxton Road to the north of the Market Place. This is a narrow stretch of road despite being the primary route and has a 1 in 7 gradient. Lorries have difficulty passing each other at certain pinch points and tree cover also acts to exacerbate a street canyon effect. 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 close proximity of the road.

The highest result for the original tube DT12 was for 49.4µg/m³ in 2018. This stimulated the need for a detailed assessment and this was undertaken in March 2021. A modelling assessment and report have been completed and this documentation has been uploaded to the [submission website](#).

The detailed assessment recommended an urban background tube be deployed. This was undertaken in 2021 and is now known as DT26 Ashbourne Park.

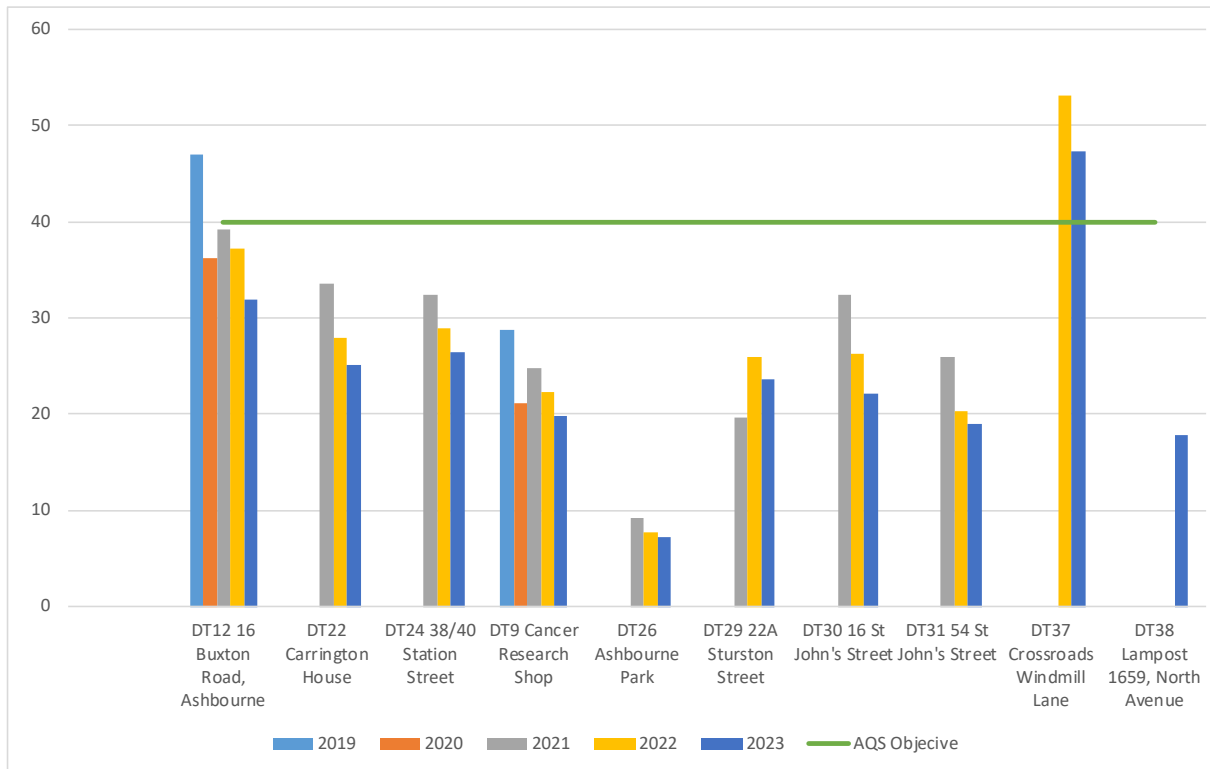
Nitrogen oxide diffusion tubes continue to be deployed across the district and levels remain consistent for most sites. In Ashbourne, there has been an overall reduction in levels within 2023. Two new tubes have been introduced in monitoring year 2024 and early results are also showing potential exceedances of the AQO.

Over the last four years the corrected annual average for tube (DT12) has not breached the Air Quality Objective (AQO). Initially, this was believed to be as a result of the covid pandemic, but it has again fallen below the AQO in 2022 and 2023 which is a positive development. As seen below the highest result for this tube (DT12) in 2018 was 49.4µg/m³ and in 2023 DT12 decreased to 31.9µg/m³. A new tube (DT37) placed adjacent to the Bowling Green Public House on the junction of North Avenue and Buxton Road in monitoring year 2022, has revealed high results (53.1µg/m³) in 2022 although this has reduced to 47.4µg/m³ in 2023. This remains in exceedance of the national Air Quality Objectives, although, this tube may be subject to effects of turbulence being a kerbside location and guidance suggests this can cause an elevation of results. Nevertheless, monitoring continues and work to reduce emissions is ongoing.

A graph of the previous 5 year's monitoring results is provided below for the tubes in Ashbourne. The trend is decreasing, with the majority of tubes now meeting the AQO

limits, with the exception of the new tube DT 37 which was added in monitoring year 2022.

Graph 2.1- 5 year trend in mean NO₂ concentrations



5

Maps of diffusion tube locations in 2020 and 2021, 2022 and 2023, are available in Appendix C and below is a map of the Ashbourne AQMA. The designated area incorporates Buxton Road, Ashbourne from the Windmill/North Lane junction to the junction of St John's Street and St John's Street Ashbourne from the junction of Cokayne Avenue and Park Road to 22 St John's Street.

Map 2.1 Air Quality Management Area Ashbourne



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Scale 1: 2,000
20/04/2021

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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 NO₂ 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 behaviour change to healthier lifestyles through the live life better Derbyshire program and other sustainable transport and school travel 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 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 features prominently 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) work is complete at the Agricultural Business Centre Bakewell to remove gas heating and install solar panels, similar work is due to complete at the Town Hall in Autumn 2023. The projects together will save 81t CO₂e/yr.

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 (December 2023 completion due to funding and procurement delays)
- Continuing assessment of car parks for EV charging infrastructure, work alongside Derbyshire County Council as the highway's authority on a county wide approach including possible bid for LEVI funding (4 more to be installed by March 2024)

Energy

- Move to a supplier of 100% renewable electricity (backed by REGOs) when our current contract permits (completed)
- 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). Community Energy group has successfully engaged with a number of local businesses to agree installation of solar PV panels.
- Energy efficiency investments at Leisure Centres continue, with a £734k project at Ashbourne, incorporating the removal of gas boilers, a building energy management system, solar PV, and battery storage. The Ashbourne Leisure Centre project is complete. This should save 123t CO₂e/yr ongoing. £1.92 million of further grant funding has been secured to reduce emissions from two further Leisure Centres (Arc Matlock and Wirksworth) from April 2025 – this funding is for the removal of gas boilers, installation of solar PV panels. Total estimated ongoing carbon saving – 303t CO₂e/yr

Homes

- Ongoing housing energy efficiency upgrade projects (20 so far), including beginning to consider off gas homes which may be using solid fuels as a main heating source (March 2023) estimated saving of 290t Co₂e/yr .Awarded a further £1.9m to March 2025 to install energy efficiency measures and low carbon heating in off gas homes across district.
- Supporting social housing providers to access grant funding to improve energy efficiency of homes. Working with Marches Energy Agency to offer support. Visits continue to take place. We are also working collaboratively with partners to develop a ‘one stop shop’ advice domestic energy efficiency service for willing to pay residents.
- Energy efficiency advice offered to residents through engagement events in market towns, and an online forum.

- 'Go Green' event July 2022 in Matlock and repeated in July 2023 in Ashbourne, focussing 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 (10 points in currently in Matlock. Completed)
Further information is available on Derbyshire Dales [website](#)

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 aim to reduce the need to travel. They encourage 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 for England (Defra, 2023) published by the Department for Environment, Food, and Rural Affairs (Defra), provides the policy framework for air quality management and assessment in England. It provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. It sets out powers and responsibilities for local authorities and further actions expected. The priorities of this strategy are:

1. Planning reforms helping to deliver on air quality.
2. Building capacity in local councils through training, guidance and knowledge sharing.
3. Reducing emissions from industrial sources through improved enforcement of environmental permits.
4. Reducing pollution from domestic burning through smoke control areas and cleaner fuels.
5. Raising awareness within local communities of air quality impacts and how to reduce them.
6. Boosting active travel and public transport to improve air quality.

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 two areas of improvement:

- a safe and connected town centre, through a series of traffic management, pedestrian safety, and public realm improvements
- 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 Community 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 Mobility Hub is planned to bring greater connectivity between transport modes and improvements in public transport and sustainable transport including walking and cycling.

See actions 3, 4, and 6 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 in 2021 and more recently in 2023 by AECOM. This has concentrated on traffic sources as the majority of emissions arise from Heavy Goods Vehicles (HGV's) and cars. There is no discernible contribution from point sources or industry as the area surrounding where the exceedances have occurred are mainly residential. The lower end of the AQMA is within the town centre, but still the main source of emissions would be traffic related sources. No permitted activities occur within the AQMA.

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.

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.

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.

Future year forecasts were developed using local development assumptions and the Department for Transport’s national growth forecast.

The data from the Ashbourne Highway Assignment model was deemed the most appropriate source of future year traffic data, for the initial emissions assessment.

An interrogation of the traffic model assignment provided modelled traffic flows and vehicle proportions for Buxton Road and St John’s Street.

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 ¹ (%)	OGV ² (%)
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

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

Note, OGV stands for Other Goods Vehicles and includes all goods vehicles over 3.5 tonnes gross vehicle weight

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. Further discussion of the findings are within the required reduction in emissions section below.

3.4 Required Reduction in Emissions

A calculation of reduction in emissions has been undertaken again after an initial calculation in 2021 by DDDC, using a non-modelling approach, it should be noted that there are limitations to this approach and more accuracy can be achieved through modelling. This equated to a 20% reduction in road emissions, detailed below. This has since been updated by AECOM in January 2023, and this is shown below also. They calculated a 17.3% reduction required for the location DT12 which is representative of residential dwellings and 36% at DT19 which was located within the tree canopy area of Buxton Hill. The Detailed Assessment recommended this tube be relocated, however the figure for DT19 is considered worst case scenario as it is based on a figure of 57.4µg/m3 which is the highest recorded corrected result.

Initial DDDC calculation:

Step 1:

NO₂ local background 7.3µg/m³

Step 2 & 3						
Local Authority:			DDDC		Year: 2019	
					Traffic Mix 0	
Site ID	Diffusion background µg m ⁻³	background µg m ⁻³		d NO _x , µg	defined local	Notes
		NO _x	NO ₂			
12	47	9.4	7.3	83.37		Step 2
12	40	9.4	7.3	66.46		Step 3

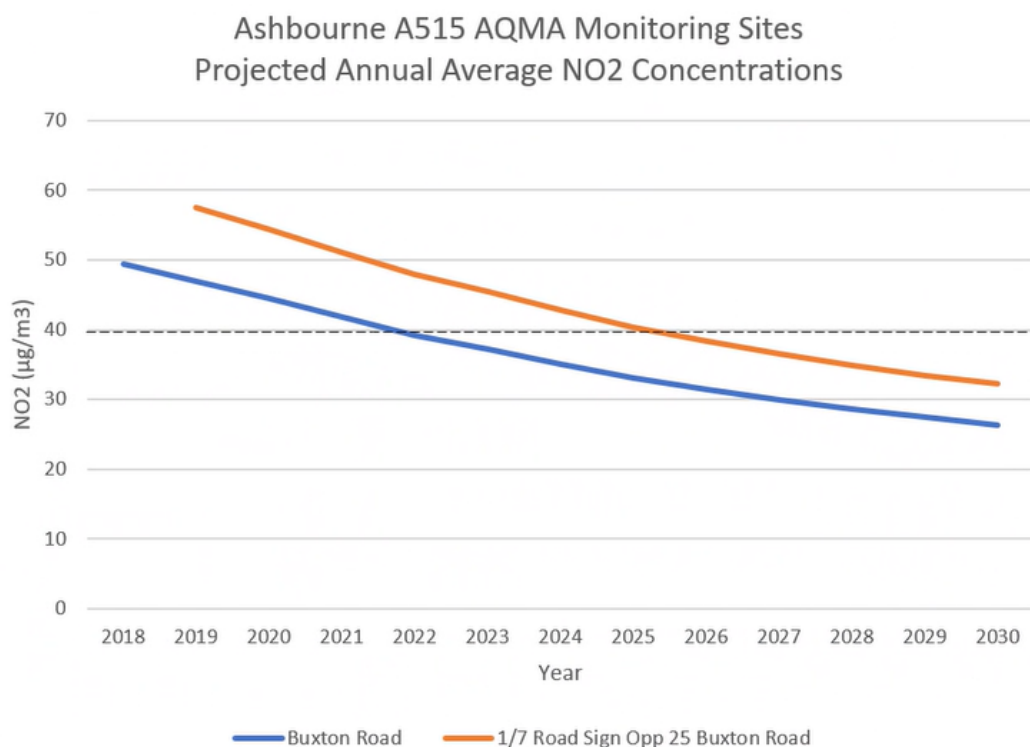
Step 4

$$83.37 - 66.46 = 16.91\mu\text{g}/\text{m}^3$$

$$16.91/83.37 \times 100 = 20\%$$

Result 20%

Projected annual average roadside NO₂ concentrations have also been calculated by Derbyshire County Council using DEFRA's Roadside NO₂ [Projection Factors](#) featured within their LAQM guidance.



Annual average NO₂ levels were taken from Derbyshire Dales District Council’s 2020 [Air Quality Annual Status Report](#)

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% Heavy Duty Vehicles (HDV’s)) factor was applied as Derbyshire County Council traffic counters indicated an average of 11% HDV’s between 2017 and 2019 on the A515 north of the monitoring sites.’

Again, AECOM undertook a revised calculation in 2023 detailed below.

Emissions calculations have been completed using the Defra Emissions Factors Toolkit Version 11. 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.

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.

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

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.

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.

With the emissions calculations based on traffic travelling at 30 kph (representing more free flowing 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.

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.

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.

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.

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.

Discussion of Results for the source apportionment and reduction of Emissions sections

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.

In the AQMA, monitoring has identified a maximum annual mean NO₂ concentration of 57.4 µg/m³ in 2019 (the last year of monitoring not impacted by covid lockdowns) at site 19, located on the 1/7 road sign opposite 25 Buxton Road. Defra's modelled background concentration estimates for the region estimate a background NO₂ concentration of 8.1 µg/m³ in the area of Buxton Road. This indicates that road traffic emissions account for 49.3 µg/m³ (or approximately 85%) of total concentrations of NO₂ at this worst-case location.

Using this example, a reduction in concentrations of >17.4 µg/m³ would be needed to lower concentrations below the annual mean objective, which equates to an approximate **36%** reduction in total traffic emissions.

It is recognised that site 19 (1/7 Road Sign Opp 25 Buxton Road) 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 µg/m³ and so a smaller reduction of >7 µg/m³ would be needed to lower concentrations below the annual mean objective for NO₂. This equates to an approximate **17.3%** reduction in total traffic emissions being required.

The above calculations at specific monitoring sites are broadly in line with the findings of the Draft Derbyshire Dales District Council AQAP 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.

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.

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.

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 NO₂ 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.

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.

Derbyshire Dales District Council (2021) LAQM Annual Status Report 2021. Available from: https://www.derbyshiredales.gov.uk/images/DerbyshireDales_ASR2021revFinalwith_DPHendorcement.pdf
Defra (2022) Background Mapping data for local authorities – 2018. Available from: <https://uk-air.defra.gov.uk/data/laqmbbackground-maps?year=2018>

3.5 Key Priorities

Below are our key priorities. It should be noted that from earlier draft AQAP previous actions numbered 1-3 have been developed into a combined Action 1 forming an Intelligent Transport Management System. The previous draft action for School Streets is not proceeding at this moment and so has been removed from the current plan.

Action 1: Intelligent Transport Management System

Delivery of an Intelligent Transport System (ITS) solution to optimise traffic flow through the A515 air quality management area to provide more free-flow conditions which will in combination deliver air quality improvements.

The ITS solution will introduce increased capability to manage and control town centre traffic by upgrading the A517/ Park Road and Derby Road five-ways junction's traffic signals and installing new traffic signals at the Station Road/ Church Road junction. The ITS will use back-office systems, including Traffic Management System (TMS) and Urban Traffic Control (UTC) to optimise traffic movements and manage demand on the network, with the ultimate aim of providing information to the user to help inform travel decisions.

These systems are being developed as a suite of intelligent traffic management systems that are embedded within the County Council's Control Room to monitor traffic and air quality data in real time via an extensive network of new traffic and air quality sensors located around the town.

The ITS will be informed by the development of a Vissim' model which will enable traffic management and air quality specialists to optimise the flow of traffic to achieve better and quantified air quality reductions. The model will also inform whether additional control measures are required e.g. New traffic signals at the A515 Windmill Lane junction.

This project also provides the data capability to consider options to restrict heavy goods vehicles to specific routes through the town centre. It also provides the

opportunity for integration into the County's wider pre-emptive travel project which can provide travel advice to road users across a wider area when air pollution is increasing within the town centre.

Action 2: Investigate tree canopy pollution dispersal.

Where there is a high density of tree canopy cover, as in the situation on Buxton Road, Ashbourne, the flow of air may be reduced and constrain the dispersal of pollutants by intensifying a 'street canyon' effect. Work to reduce the density of tree cover guided by the arboricultural officer of the Council, by way of selected tree removal, including removal of diseased trees, the lifting of the general tree canopy, and removal of re-growth from previously removed tree canopy has been completed. Further work has been undertaken at Victoria Court to remove several more trees and this appears to have had a positive effect on Nitrogen Oxide levels (reduced level at DT12) as levels fell to 31.9µg/m³ in 2023. The effectiveness of the tree work will be observed to establish if any further tree pruning is required and to maintain any gains.

Action 3: 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. Many residents both live and work in the town, consequently, there is significant potential to encourage as many people as possible who currently drive short journeys to walk or cycle instead.

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 confirm Dig Street/Compton one-way for traffic.

Community Hub

Provision of a high-quality mobility hub is embedded within the Community Hub proposals of the 'Ashbourne Reborn' Levelling Up Fund allocation, announced in 2023. The funding of the transport hub will 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 6).

Action 4: 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. While concerns persist regarding heavy goods vehicle (HGV) emissions on the A515, there exists a notable opportunity to reduce emissions by facilitating the transition to low or zero emission vehicles, particularly in sectors where a significant proportion of fleet are non-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 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 Autumn 2024.

Action 5: 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: -

Workplace travel plans

The County Council's sustainable travel team to provide advice and support to businesses and new developments to encourage greater use of more sustainable modes. The County Council is seeking to establish an Ashbourne business sustainable travel forum to promote best practise and knowledge sharing.

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 6: Bus Service Improvement Plan (BSIP) implementation including bus priority

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

Action 7: 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. The County Council and the minerals industry has recently established a roundtable meeting which brings together businesses, academics, and the Council. A recent transport roundtable identified four key workstreams for further collaboration: (a) air quality, (b) alternative fuels, (c) corporate travel plans, and (d) rail. Site specific engagement is also provides opportunities for engagement through

site planning and monitoring e.g., through local liaison committees. We know the minerals industry has been taking steps to ensure vehicle fleets are Euro 6 compliant, with all, or close to all, vehicles now being compliant across major operators and one operator is currently trialling an electric HGV which will inform future fleet decisions. Driver training has shown to have significant positive impacts on driver behaviours and efficiencies. Successful initiatives include driver league tables and rewards, as well bonus schemes based around fuel economy. 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.

Medium to Long Term Action: Develop the delivery of the 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.

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/social media
- Questionnaires publicised via use of postcards with QR codes in AQMA area.
- 2 Public meetings with representation from Derbyshire County Council Strategic Highways Team at both meetings and representatives of the Public Health Team at one of the meetings.
- 4 Drop-in sessions

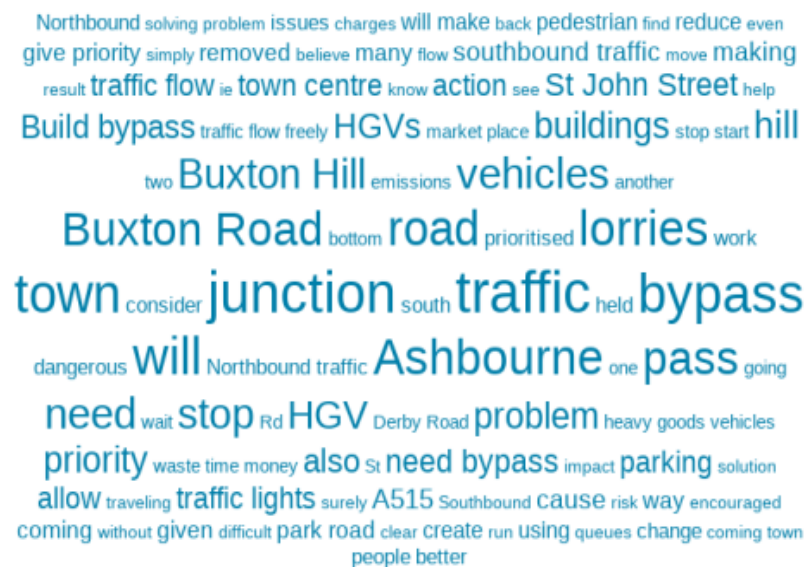
The response to our consultation stakeholder engagement is given in

An impact rating exercise was undertaken by AECOM and can be found in Appendix E. This will be built upon once the Vissim model as detailed in our Key Priorities is built and operational.

Appendix A: Response to Consultation.

An online survey was prepared to obtain views on each of our priorities. A word cloud from question 2 is below.

At the Community and Environment Council Meeting in February 2023, it was resolved to ask two additional questions, requested by councillors. This included questions about the implementation of a Clean Air Zone and a 20mph speed limit across the town. Derbyshire County Council also requested a question to scope the feeling from the public about removal of parking spaces on Buxton Road, to consider this to ease congestion and improve traffic flow. For each of the proposals presented as part of the consultation respondents were given the opportunity to indicate whether they strongly agreed with the proposal, agreed with it, were undecided, disagreed with it or strongly disagreed with it. In addition they were able to submit free text comments in relation to the proposal and to indicate which of the proposals were most important to them.

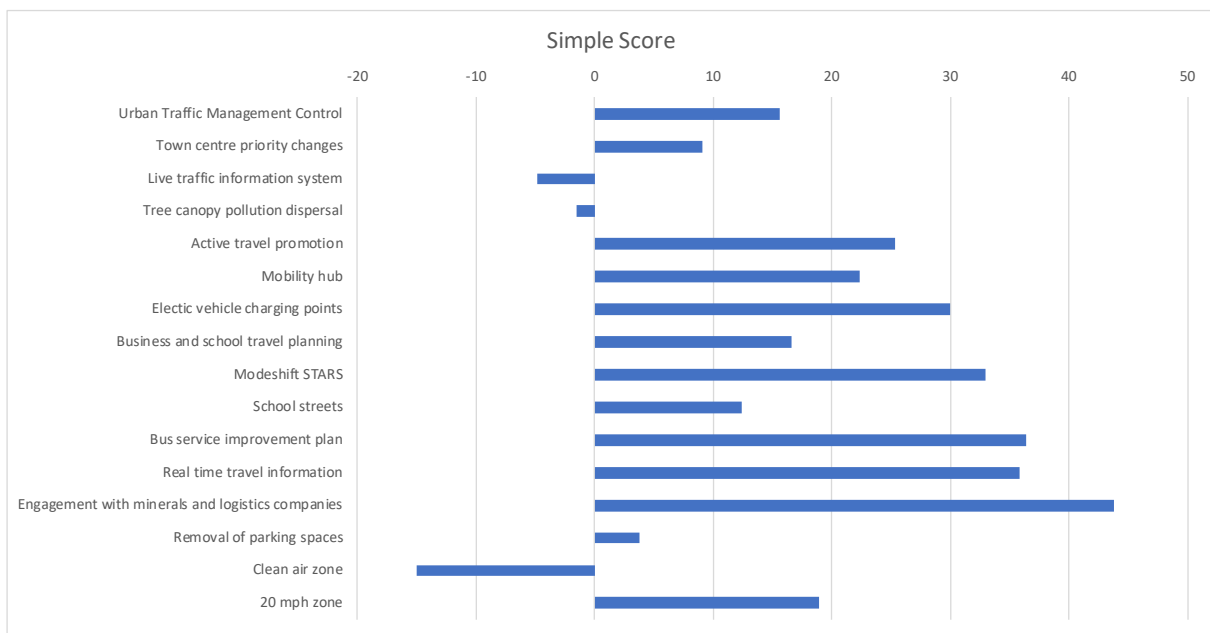


The response to our consultation stakeholder engagement is given in

An impact rating exercise was undertaken by AECOM and can be found in Appendix E. This will be built upon once the Vissim model as detailed in our Key Priorities is built and operational.

Appendix A: Response to Consultation.

The consultation generated 402 online responses, comprising straightforward responses to the questions plus 2,628 free-form comments, and 11 separate written submissions. Based on results from the online consultation below is a graphical representation of agreement with the proposals. The righthand side is where the consultation was in agreement and the lefthand side, where agreement was not reached.



The majority of actions were received positively by the public, especially liaison with the mineral operators through the mineral planning team at Derbyshire County Council. The need for a relief road also came across clearly in the comments. The greatest negative result was for a Clean Air Zone although those who supported this felt this was one of their preferred options. Derbyshire County Council preference is for the delivery of a relief road rather than a Clean Air Zone. A clean air zone has not now been pursued as a result of the consultation exercise. Other actions not fully supported were the removal of trees and tree canopy to improve pollution dispersal. Tree work was undertaken by the Council and further tree clearance by a developer of the Victoria Court site on Buxton Road, undertaken late 2022/early 2023 appears to have had a beneficial effect in reducing levels, as 2023 monitoring data has shown continued reductions in levels.

The District Council’s Corporate Policy Officer has examined the responses from an equalities point of view and has commented that the majority of survey respondents (74%) were from the higher age brackets – people aged from 45 years old to over 75 years old. 21% of respondents were from the 45-54 age group, 27% of respondents were from the 55-64 age group and 20% were from the 65-74 age group. The 2021 ONS population estimates show that the Derbyshire Dales has a sizable aging population with 53% of residents aged over 50. In this sense the survey demographics roughly mirror the area’s demographics. However, the ONS estimates show that 8% of Derbyshire Dales residents are in the 16-24 age group, whereas only 2% of respondents were in that age group. Similarly 24.5% of Derbyshire Dales residents are in the 25-49 age group, whereas only 19% of respondents were in this age group. The survey may therefore over represent the views of older residents against younger residents.

The responses are evenly split between female and male respondents. 94.6% of respondents identified as White British as compared to the summary profile (Derbyshire Observatory 2018) of 96.8%. This suggests that the survey has reached a good range of people with differing ethnic origins.

82% of respondents said they did not have limitations on their day to day activities, which correlates well to the population figure of 81.5%. However, several respondents preferred not to answer this question and only 11% of respondents said they did have limitations on their day to day activities, which is below the population figure of 18.5% obtained from the Derbyshire Observatory. This suggests that the views of this group may be under represented in the survey.

Table 0.1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Secretary of State	Yes

Consultee	Consultation Undertaken
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 (now Place and Economy) of Derbyshire Dales District Council, Ashbourne Town Council and the Ashbourne Town Team. The [Town Team](#) is a group of local residents and business owners in Ashbourne with a desire to improve the town. Quarterly reports have also gone to the Community and Environment Committee including representation at those meetings by members the public, the Town Team and Town Council.

Meetings have been held with the full steering group including:

- Initial discussion of general principals of the AQAP,
- development of suggested measures through the development of a long list of options. This long list was taken away by Derbyshire County Council and revised into a list of preferred options, see note below.
- discussion of the preferred options and the views of the Stakeholders on the preferred list of options.
- Information from local residents

- Details of externally produced reports and timescales
- Progress of preparation of draft AQAP

The Steering group and other partners of the District Council will continue to meet periodically to review progress,

and this will be reported through the Councils Community and Environment Committee.

Note: The Strategic Transport Team at Derbyshire County Council took 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 within Derbyshire County Council consisted of mineral planning, highways and public health colleagues.

5 AQAP Measures

Table 5.2 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 5.2 – 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	Intelligent Transport Management System	Traffic Management/public information/Traffic planning and Infrastructure	Strategic highway improvements/congestion reduction /app based communication	2024/2025	December 2025	Derbyshire County Council	Derbyshire County Council (DCC)	Yes	Funded partly by AQ grant and DCC	£100-500k	Implementation	48-74% see note 3	Reduction in measured pollutant	In conjunction with measure 6 TMS/UTC 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 See note 1 below for more detail re progress as of April 2024	Budget constraints/timescales
2	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	Completed	Better airflow in target area	Reduction in measured pollutant	Work completed	
3	Active travel promotion	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023	2025/2026	Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£10-50k	planning	Increased walking to and from the town centre by	Delivery of Ashbourne Reborn output and outcomes		

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
												residents to facilitate reduced nox levels			
3	Public realm	Promoting Travel Alternatives	Promoting walking/cycling	2022/2023	2025/2026	Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£1m-10m	planning	Increased walking to and from the town centre by residents to facilitate reduced NOx levels	Delivery of Ashbourne Reborn output and outcomes		
3	Community Hub	Promoting Travel Alternatives/ Public information	Promoting walking/cycling	2022/2023	2025/2026	Derbyshire Dales district Council/Derbyshire County Council	LUF2022	No	Grant Funded	£50-100k	planning	Increased walking to and from the town centre by residents to facilitate reduced NOx levels	Delivery of Ashbourne Reborn output and outcomes		
4	Electric vehicle charging points	Promoting low emission transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging	2019	2025/2026	Derbyshire County Council/DDDC	LUF2022	No	Grant Funded	£10-50k	Planning/implementation	Increase uptake of electric vehicles and use of charging points	Increased installation of EV charging points	New study commissioned by DCC to assess demand has identified the need for additional charging points and will be part of the 5b mobility hub.	
5	Workplace travel plans Promotion	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2023	Ongoing work no end date	Derbyshire County Council	Derbyshire County Council	No	Funded	£10-50k	Implementation	Increased walking to and from work	Number of businesses engaged	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
5	School travel plans	Promoting Travel Alternatives	School travel plans Intensive active travel campaign & infrastructure	2023	Ongoing no end date	Derbyshire County Council	Derbyshire County Council	No	Funded	£10-50k	Implementation	Increased walking to and from school	number of schools engaged	ongoing	
6	Bus Service Improvement Plan implementation	Transport Planning and Infrastructure/ Alternatives to private vehicle use/ Travel management	Bus route improvements	2023	2025	Derbyshire County Council	Derbyshire County Council	No	Funded	£100-500k	Implementation	Contributes to Measure 1	Completion of work	Ongoing	
6	Bus priority	Promoting Travel Alternatives/ Alternatives to private vehicle use/ Travel management	Bus route improvements	ongoing	ongoing	Derbyshire County Council	Derbyshire County Council	No	Funded	£100-500k	Implementation		Completion of work/increase uptake of buses	Ongoing See note 2 below for more detail re progress as of April 2024	
7	Continue engagement with local mineral and logistics companies	Promoting Low Emission Transport/ public information	Company Vehicle Procurement - Prioritising uptake of low emission vehicles /other	2024	Ongoing no end date	Derbyshire County Council	Derbyshire County Council	No	Funded	<£10k	Implementation	Raising awareness to allow hauliers to make informed routing decisions.	Raise awareness of Air Quality in Ashbourne within the Mineral Sector along the A515 corridor.	Ongoing Inaugural round table meeting held with minerals industry representatives to discuss transport issues – February 2024	Liaison with Mineral Operators to raise the profile of the need for good air quality in Ashbourne. This will also feed into the mineral planning system.

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
Medium to long-term priority	Continue to develop proposals for a relief road	Transport Planning and Infrastructure/Traffic Management	Strategic highway improvements /traffic reduction	2022	N/A This is dependent on funding and EM combined authority	Derbyshire County Council Strategic Transport	Derbyshire County Council	No	Funding being sought	N/A	Planning Application and supplementary reports	Significantly reduce Heavy Goods Vehicles	Data showing reduced traffic from fixed and non-fixed monitoring locations	Approved route agreed Planning application to be submitted as the next step including preparation of supplementary reports	Planning timescale is not fixed and could cause delays. Funding and land assembly may introduce delays. Once a microsimulation model in Ashbourne Town Centre has been created, with suitable funding, it could be adapted to assess various options associated with the relief road, specifically modelling the progression of heavy goods vehicles.

Note 1

Via the Bus Service Improvement Plan (BSIP), developer contributions and also the County Council's capital funds, several important elements of this action have been delivered or will be implemented within the next 6 months.

Several signalled junctions have been refurbished within Derbyshire to increase capacity to improve journey times for buses and other vehicles. With these initiatives, there has already been a reduction in delays and also, which is important to emission reduction, a drop in the frequency of vehicular stop/starts. It is expected that due to measures noted below that capacity will be further improved.

Once all the physical works to junctions have been completed, particularly at the Church Street/Station Road junction, it is proposed to introduce the SCOOT system of traffic control which will release capacity to give a greater flexibility to introduce specific signal timing strategies, for example to assist buses, or vehicles that tend to have high emission levels. Following the commissioning of a study, undertaken by the County Council's specialists, all the building blocks for this are now in place and it is expected that that the application of the improved co-ordination of signals, to include bus priority and also emissions minimisation strategies is likely to occur within the next 6 months.

The County Council has been awarded a grant by DEFRA to develop the County Council's PTMS (Pre-Emptive Traffic Management System), to make predictions of poor air quality before it happens such that mitigation measures, enacted by the traffic control systems can happen before problems occur. This project is about to commence.

To provide objective supplementary data such as meteorological conditions, the County Council has connected one of its intelligent transport systems (the Traffic Management System – TMS) to all the weather monitoring stations in the County. This data can, and is, being made available to other intelligent transport systems and network models in real time or as background information to make emission minimisation strategies as effective as possible. Further to this work, the TMS is now linked to the PTMS to constantly refine accuracy and maximise the positive effect of any given traffic control strategy.

In parallel to the activities noted above, the project to create a microsimulation model of Ashbourne is about to commence, and the placement of nine additional pollution monitors and image analysis cameras (to allow the calibration of the model) has been progressed. The output of the model, in combination with real time data from a variety of objective sources will allow an automated imposition and monitoring of emissions minimisation strategies in any given circumstance.

Note 2

All traffic signal junctions in Derbyshire are in the process of being adapted to enable modified signal timings to be applied automatically when a late running bus is detected. All the back office systems, including the identification of late running buses, strategies that will be employed and the monitoring of effect (to maximise the benefits to buses whilst minimising disruption to other traffic) are in place. It is expected that all signalled junctions will be suitably equipped within the next 5 months. For any major signal refurbishment project or new signals as referred to under Action 1, the bus priority work is being included as a matter of course.

In terms of emissions reduction, a positive byproduct of a greater network efficiency is that emission levels are expected to reduce, and that should there be an untoward poor air quality incident (or indeed a predicted one), an emission minimisation strategy can be applied automatically in combination with bus priority.

Note 3

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 bound) and St John Street. Relevant KPI's and this impact rating assessment will be strengthened once the Vissim model is developed.

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

An impact rating exercise was undertaken by AECOM and can be found in Appendix E. This will be built upon once the Vissim model as detailed in our Key Priorities is built and operational.

Appendix A: Response to Consultation

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

Consultee	Category	Response
ATT	Business/community	Support Bypass Wish to make the Town less attractive to Traffic Weight restrictions to support the above 20mph speed limit
DPH	Public Health	Supports the process Requests Defra feedback Supports additional monitoring Supports public realm improvements to promote alternative travel inc. safer walking and cycling routes Requests feedback on CAZ consultation
Ashcom	Business/community	Suggests a wider look at the A roads in the region and the vehicles and bus provision in the town. suggest sanctions are needed to make the traffic alert provisions work link planning system of new homes to infrastructure to encourage walking and cycling Make the mobility hub central and have a satellite at the industrial estate Link with mineral operators to ensure Ashbourne is not used as a rat run

Consultee	Category	Response
		obtain better information on the users of the road
Ashbourne Town Council	Business/community	Support the process and work with DDDC/DCC to alleviate pollution Complete consultation individually
Public	Public written	Support Bypass Wish to make the Town less attractive to Traffic Weight restrictions to support the above Implement mineral liaison immediately
Public	Public written	Support much of content but feels it is flawed Need to reduce HGV's Weight limits imposed Wish to make the Town less attractive to traffic Wish to make the Town less attractive to traffic
Public	Public written	No supporting metrics in AQAP In favour of the Bypass Not keen on the wider measures as not relevant
Public	Public written	Query of how a CAZ would be implemented Concern pushing the problem elsewhere Euro 6 already in place Bypass needed Suggested some options including one way system with roundabouts not traffic lights speed restrictions a car park better located for incoming traffic from the north

Consultee	Category	Response
		park and ride or free parking in car parks for school collections
Public	Public written	<p>Variable speed limits Improving traffic flow as de-NOx systems stop after 5 mins idling remove parking spaces on Buxton Road Make a second entrance to Shawcroft car park Zebra crossings to stop unnecessary traffic hold ups Box junction improvements at Madge corner with priority to St John's Street remove parking spaces on Cokayne Avenue to make it more free flowing- compensate with additional parking in the Rec Car Park provided for school collections - overflow car park suggested Contractors be required to be Euro 6 compliant who work on the roads.</p>
Online responses	All online responses mixed including business and public	<p>Action 1: Investigate the use of Urban Traffic Management Control to optimise traffic flows within Ashbourne town centre: There were 397 responses to this proposal, with 130 strongly agreeing with it, 78 agreeing, 43 undecided, 44 disagreeing and 102 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +15.63% • Weighted score = +90 • Most important = 31.36% <p>There were 202 free text comments received in relation to this proposal, with a wide variety of views expressed. The points that were expressed most frequently were the need for a bypass and the need to reduce the number of HGVs in the town.</p>

Consultee	Category	Response
		<p>Action 2: Investigate town centre priority or capacity changes to improve heavy goods and other vehicle flows on A515 Buxton Road, Ashbourne: there were 396 responses to this proposal with 98 strongly agreeing, 90 agreeing, 56 undecided, 57 disagreeing and 95 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +9.10% • Weighted score = +39 • Most important = 25.68% <p>There were 197 free text comments received in relation to this proposal. Again, the need for a bypass and the need to reduce traffic in the town were frequently expressed views.</p> <p>Action 3: Influence route election via live traffic information systems: there were 392 responses to this proposal with 87 agreeing strongly, 69 agreeing, 61 undecided, 70 disagreeing and 105 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = -4.86% • Weighted score = -37 • Most important = 15.06% <p>There were 193 free text comments received in relation to this proposal. The need for a bypass featured strongly again, as did the lack of suitable alternative routes for traffic. Scepticism was expressed</p>

Consultee	Category	Response
		<p>about the difference that this action would make in practice.</p> <p>Action 4: Investigate improved tree canopy dispersal: there were 400 responses to this proposal with 79 strongly agreeing, 84 agreeing, 68 undecided, 56 disagreeing and 113 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = -1.5% • Weighted score = -40 • Most important = 7.90% <p>It should be noted that this action was under the control of the district council and has been completed. This will be acknowledged in the action plan.</p> <p>There were 185 free text responses received in relation to this proposal. Amongst them were concerns that removing trees would be detrimental to carbon capture and suggestions that this was a cosmetic measure. Again, a great deal of support for a bypass was expressed.</p> <p>Action 5a: St John Street and Dig Street/Compton public realm: there were 399 responses to this proposal with 118 strongly agreeing, 104 agreeing, 56 undecided, 42 disagreeing and 79 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +25.31% • Weighted score = +140

Consultee	Category	Response
		<ul style="list-style-type: none"> • Most important = 15.31% (combined score for all proposals under action 5) <p>There were 185 free text responses received in relation to this proposal. The need to reduce the amount of traffic in the town was a common theme as was concern about the safety of pedestrians and cyclists.</p> <p>Action 5b: Mobility Hub: there were 399 responses to this proposal with 78 strongly agreeing, 122 agreeing, 88 undecided, 45 disagreeing and 66 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +22.31% • Weighted score = +101 • Most important = 15.31% (combined score for all proposals under action 5) <p>There were 144 free text responses received in relation to this proposal. Whilst this proposal was broadly welcomed scepticism was expressed about its ability to impact on the air quality issue. Many comments were received about the need to reduce the traffic within the town.</p> <p>Action 6: Electric vehicle charging points: there were 400 responses to this proposal with 108 strongly agreeing, 111 agreeing, 82 undecided, 34 disagreeing and 65 strongly disagreeing. This proposal scored as follows:</p>

Consultee	Category	Response
		<ul style="list-style-type: none"> • Simple score = +30% • Weighted score = +164 • Most important = 9.38% <p>There were 141 free text responses received in relation to this proposal. Whilst this proposal scored well, a variety of views were expressed with some respondents welcoming more provision and others expressing views about the constraints on electric vehicle uptake.</p> <p>Action 7a: Workplace travel plans: there were 393 responses to this proposal with 82 strongly agreeing, 106 agreeing, 82 undecided, 52 disagreeing and 71 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +15.54% • Weighted score = +76 • Most important = 12.59% (combined score for all proposals under action 7) <p>There were 161 free text responses received in relation to this proposal. Again this proposal was broadly welcomed but scepticism was expressed about the amount of difference it would make to pollution levels. Concerns were also expressed about safety.</p> <p>Action 7b: School travel plans: there were 397 responses to this</p>

Consultee	Category	Response
		<p>proposal with 108 strongly agreeing, 111 agreeing, 90 undecided, 37 disagreeing and 51 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +32.99% • Weighted score = +188 • Most important = 12.59% (combined score for all proposals under action 7) <p>There were 134 free text responses received in relation to this proposal. Although the proposal scored well, many suggested that this would do little to reduce pollution levels, with support expressed for a bypass and for reducing traffic in the town.</p> <p>Action 7c: School streets: there were 396 responses to this proposal with 92 strongly agreeing, 91 agreeing, 79 undecided, 54 disagreeing and 80 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +12.37% • Weighted score = +61 • Most important = 12.59% (combined score for all proposals under action 7) <p>There were 148 free text responses received in relation to this proposal. Many comments expressed the concern that this could just be moving a problem of congestion at school time from one place to another.</p>

Consultee	Category	Response
		<p>Action 8a: Bus priority: there were 393 responses to this proposal with 130 strongly agreeing, 105 agreeing, 66 undecided, 41 disagreeing and 51 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +36.41% • Weighted score = +158 • Most important = 14.57% (combined score for all proposals under action 8) <p>There were 144 free text responses received in relation to this proposal. Whilst the proposal was supported doubt was expressed about its impact, due to the relatively small numbers of buses in use.</p> <p>Action 8b: Mobility Hub: there were 391 responses to this proposal with 95 strongly agreeing, 118 agreeing, 105 undecided, 28 disagreeing and 45 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +35.81% • Weighted score = +190 • Most important = 14.57% (combined score for all proposals under action 8) <p>There were 98 free text comments received in relation to this proposal. Again the proposal was broadly welcomed but doubt was expressed about the impact it would have on pollution levels.</p>

Consultee	Category	Response
		<p>Action 9: Engagement with minerals and logistics companies: there were 393 responses to this proposal with 155 strongly agreeing, 104 agreeing, 47 undecided, 35 disagreeing and 52 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +43.76% • Weighted score = +275 • Most important = 26.91% <p>There were 168 free text comments received in relation to this proposal. Overall this action was the most supported of all those put forward in the consultation. Many of the responses again referenced the need for a bypass and upgrading of HGVs was also frequently mentioned.</p> <p>Removal of parking spaces: there were 395 responses to this proposal with 181 responding positively, 166 responding negatively and 48 answering don't know. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = +3.79% • Weighted score = not applicable • Most important = 17.04% <p>There were 181 free text comments received in relation to this proposal. Concern was expressed about the lack of free or cheap alternatives for people to park.</p>

Consultee	Category	Response
		<p>Clean Air Zone: there were 400 responses to this proposal with 108 strongly agreeing, 41 agreeing, 42 undecided, 50 disagreeing and 159 strongly disagreeing. This proposal scored as follows:</p> <ul style="list-style-type: none"> • Simple score = -15.00% • Weighted score = -111 • Most important = 23.21% <p>There were 178 free text comments received in relation to this proposal. Although the proposal had a significant negative score it should be noted that many of those who supported it considered it to be amongst the most important actions, hence the significant positive score in the 'most important' category. Concern was expressed about the impact that this proposal might have on the town's economy. Again the need for a bypass featured heavily in the comments made in response to this proposal.</p> <p>20 mph zone: there were 402 responses to this proposal. Unfortunately, for reasons that are not understood the SurveyMonkey program allocated all 154 of those respondents making comments into a separate category to the regular Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree categories, meaning that the scores do not take account of everyone who has responded. Nevertheless the results have initially been analysed in the same way as the other proposals, as follows:</p> <ul style="list-style-type: none"> • Simple score = +18.95%

Consultee	Category	Response
		<ul style="list-style-type: none"> • Weighted score = +67 • Most important = 22.47% <p>Officers have also assessed all 154 of the comments made in response to this proposal to determine whether they can be viewed as positive or negative. In their opinion 48 of the comments could be viewed as positive and 64 as negative, with 42 where it was not possible to form a view.</p> <p>In terms of the comments themselves, there were 154 free text comments received in relation to this proposal. Amongst the views expressed were the belief that the proposal would make little difference as traffic already moved slowly, that it would be beneficial for safety and the fear that it might make pollution worse. The need for a bypass also featured strongly in the responses.</p>

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.

<p>Traffic Management</p>	<p>20mph Zone – A515 or town-wide</p>	<p>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.</p>
<p>Traffic Management</p>	<p>Controlled residents’ parking scheme for properties on A515.</p>	<p>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</p>

		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	Introducing traffic control to platoon traffic through the AQMA is considered undeliverable in this location because forward visibility for

	<p>movement of traffic through the AQMA.(This will remain under review dependant of the results of the Vissim model when produced)</p>	<p>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.</p>
Traffic Management	<p>Create a one-way gyratory system utilising existing A515 southbound and B5034 North Avenue/Dove House Street/Union Street northbound.</p>	<p>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.</p>
Traffic Management	<p>Revise route signage</p>	<p>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</p>

		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	Advances in new fuel technologies such as

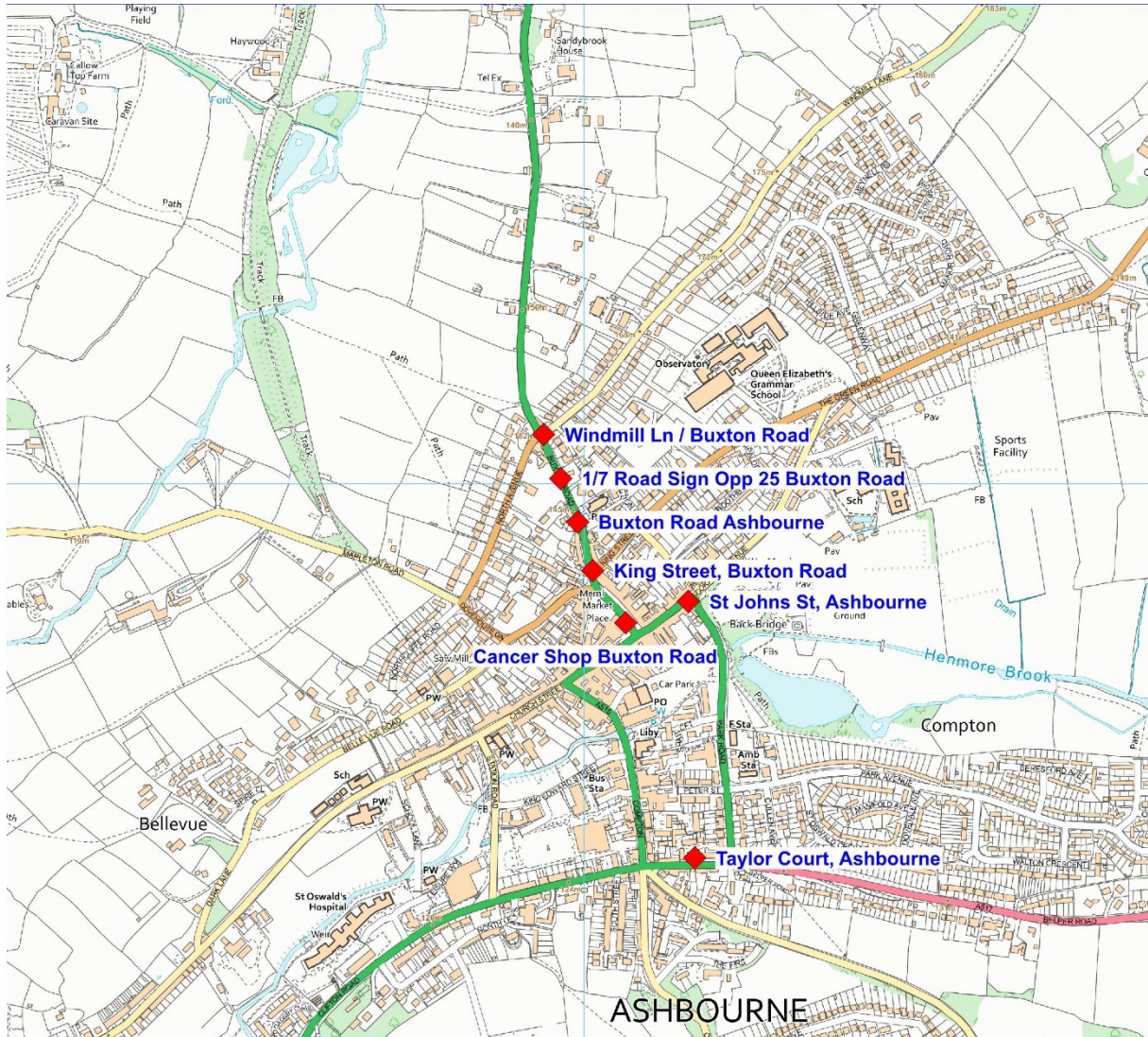
	vehicles.	hydrogen for heavy goods vehicles are being tracked for potential introduction of supporting infrastructure in Derbyshire. However, there are no specific proposals that are considered deliverable in Ashbourne in the short to medium term.
Traffic Management	Extend 30mph speed limit on approach 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 Market Place 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.

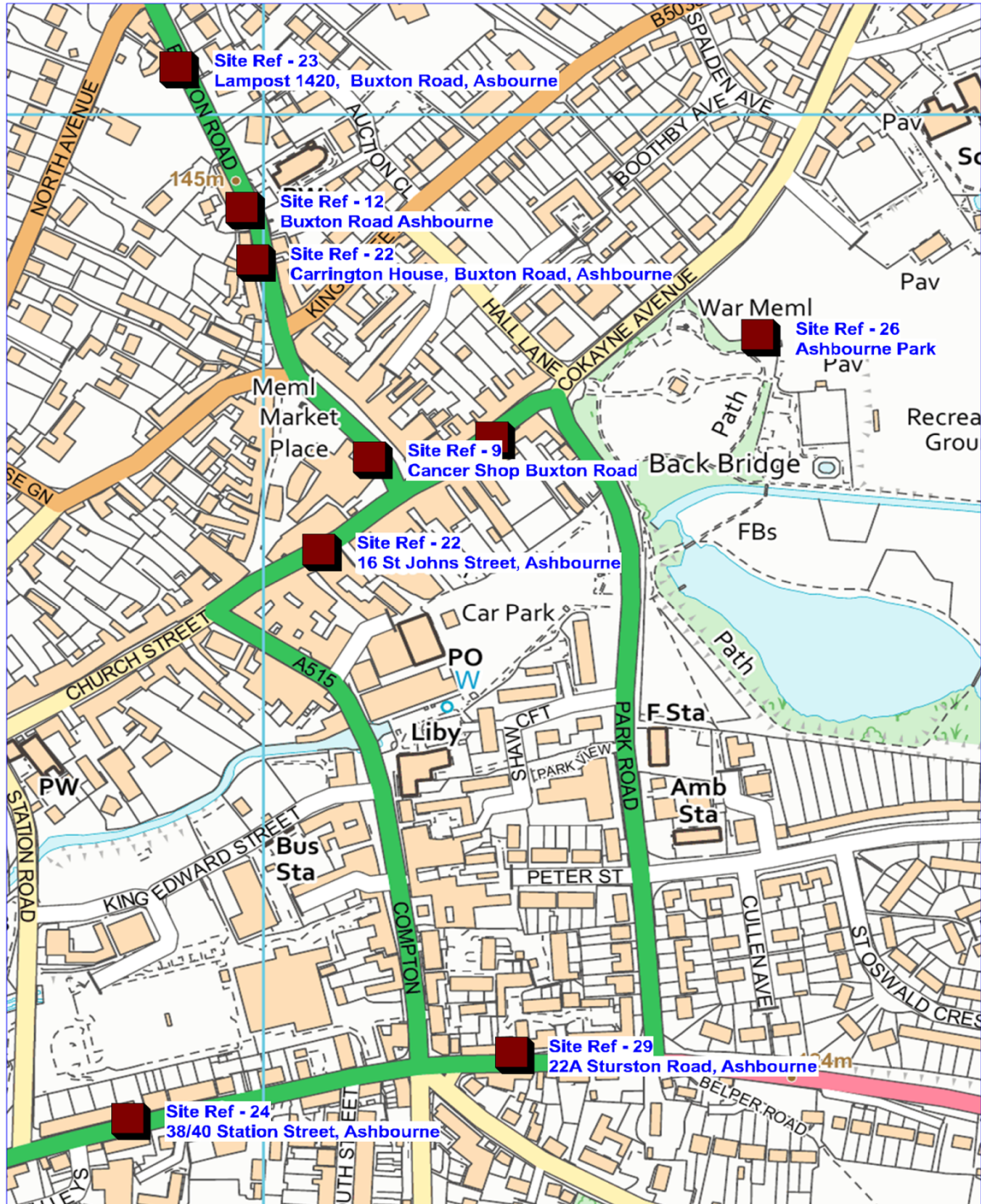
Note: A long list of suggestions for action were made by the Steering Group and members of the public. These were considered by focus groupings of the relevant specialisms within Derbyshire County Council including, Planning, Highways and Public Health representatives to produce the final actions in the AQAP.

Appendix C: Monitoring Locations

Map 1: 2020 Monitoring locations

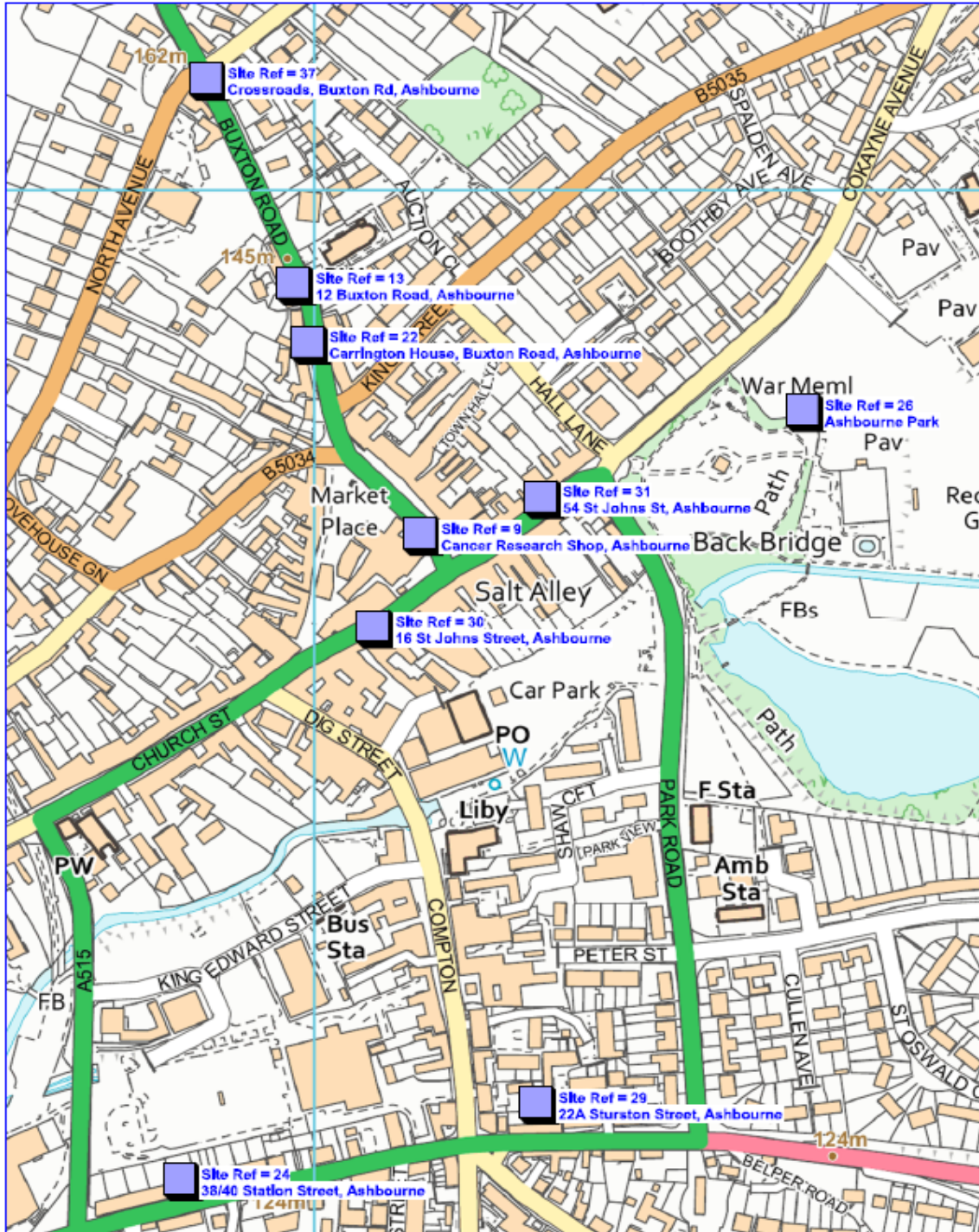


Map 2: 2021 Monitoring locations



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 Derbyshire Dales District Council, Town Hall, Bank Road,
 Matlock, Derbyshire, DE4 3NN.
 Telephone: (01629) 761100.

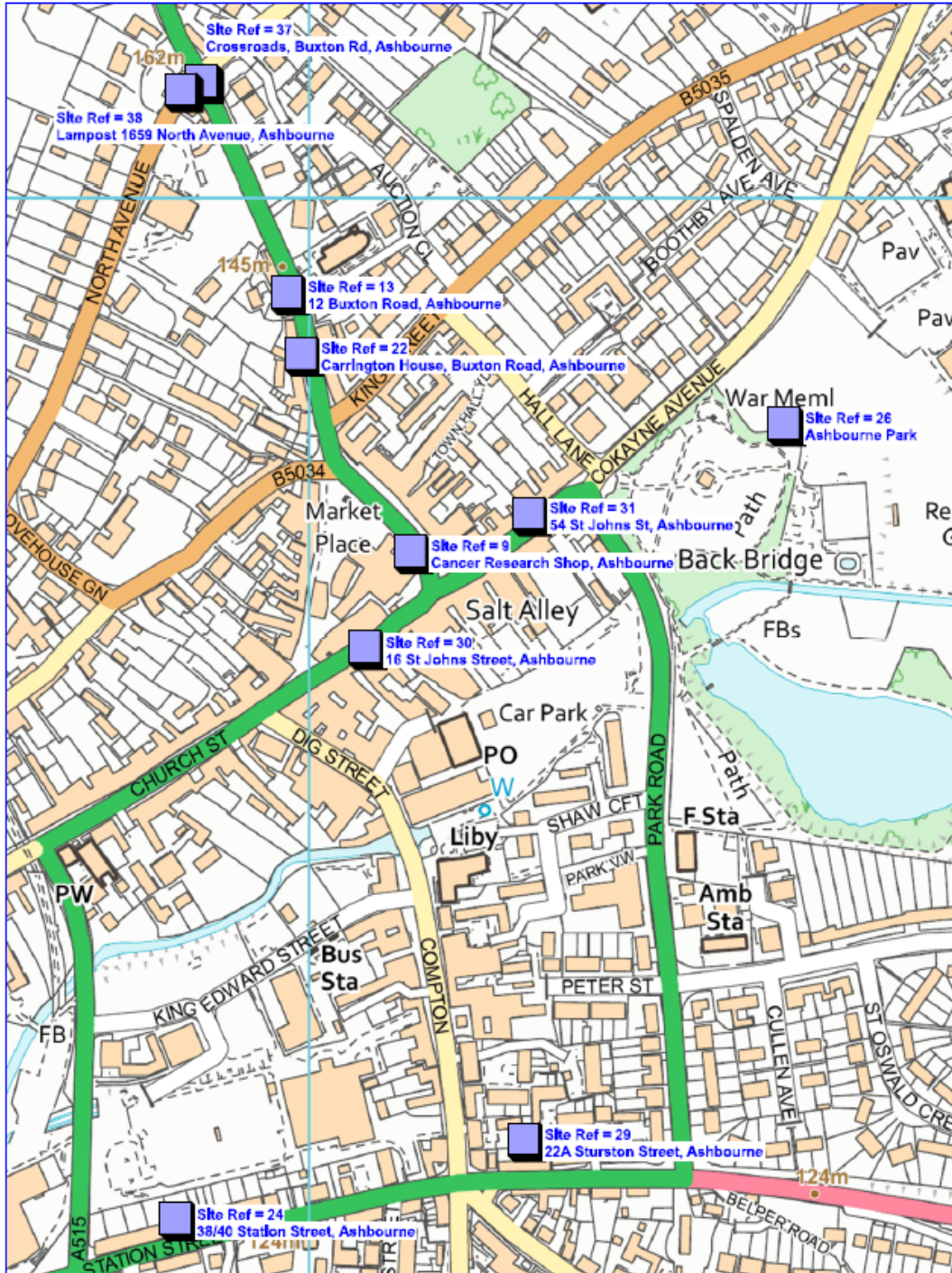
Map 3: 2022 Monitoring locations



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Derbyshire Dales District Council, Town Hall, Bank Road,
Matlock, Derbyshire, DE4 3NN.
Telephone: (01629) 781100.

N
23/06/2023
WWW.DERBYSHIREDALES.GOV.UK

Map 4: 2023 Monitoring locations



© Crown Copyright and database rights (2024 Ordnance Survey (100019785))
Derbyshire Dales District Council, Town Hall, Bank Road,
Matlock, Derbyshire, DE4 3NN.
Telephone: (01629) 761100.

N
01/05/2024
WWW.DERBYSHIREDALES.GOV.UK

Appendix D: Initial 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 based on tube site reference DT12 and calculations are below. A further source apportionment was undertaken by AECOM consultancy in Jan 2023, based on DT19, 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 (TG22). 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.

Annual Average Weekday Vehicle Classification A515

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

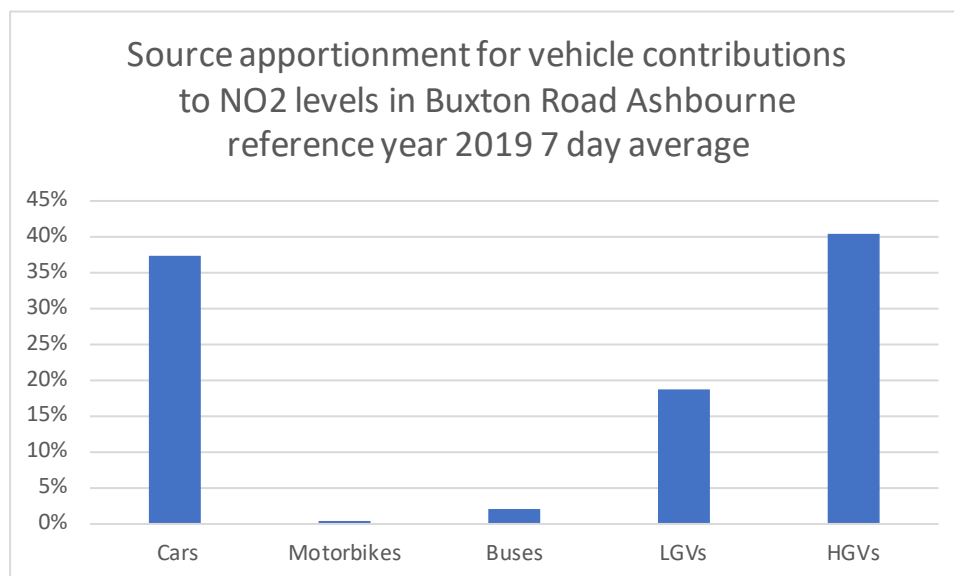
Annual Average 7 Day Vehicle Classification A515

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

Results from EFT 7-day average

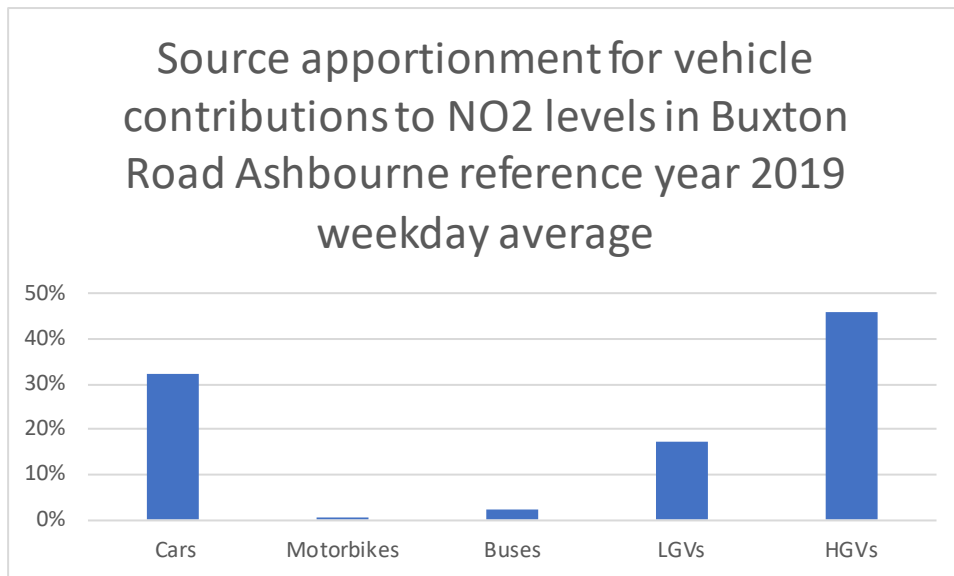
Derbyshire Dales District Council

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 µg/m³	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.

A calculation of reduction in emissions has been undertaken against an initial calculation in 2021 by DDDC. This has equated to a 20% reduction in road emissions. This is detailed below. In addition, AECOM have also updated this initial calculation in January 2023, and this is shown in Box3.4.

Step 1:

NO₂ local background 7.3µg/m³

Step 2 & 3						
Local Authority:			DDDC		Year: 2019	
					Traffic Mix 0	
Site ID	Diffusion background µg m ⁻³	background µg m ⁻³		d NO _x , µg	defined local	Notes
		NO _x	NO ₂			
12	47	9.4	7.3	83.37		Step 2
12	40	9.4	7.3	66.46		Step 3

Step 4

$$83.37 - 66.46 = 16.91\mu\text{g}/\text{m}^3$$

$$16.91/83.37 \times 100 = 20\%$$

Result 20%

Appendix E: Impact rating of action plan measures undertaken by AECOM (Jan 2023)

Table 3.2 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

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.

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 3.2.

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.

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 E: Impact Review of proposed measures

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. ⁷	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. ⁷	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. ⁸	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

Derbyshire Dales District Council

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. ⁸	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. ⁸	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. ⁸	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. ⁸	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

Derbyshire Dales District Council

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. ⁸					
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

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

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