



**Wyre Forest**  
District Council

Worcestershire  
**Regulatory Services**

*Supporting and protecting you*



# Air Quality Action Plan

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

**Local Air Quality Management**

**2025 - 2030**

**Wyre Forest 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 (LAQM) framework. It outlines the action the Council will take to improve air quality in the Wyre Forest District between 2025 and 2030.

Under the LAQM framework, an action plan is required to improve Air Quality Management Area(s) within their authority boundary.

This action plan is a final version and has been adopted from 11/02/2025.

Implementation of the outlined measures will result in the relevant objective(s) being attained by 2030.

Two Air Quality Management Areas (AQMA's) have been declared by Wyre Forest District Council:

- Welch Gate, Bewdley AQMA (Declared January 2003)
- Horsefair/Coventry Street, Kidderminster AQMA (Declared January 2003, amended in July 2009 to include part of the Kidderminster Ring Road and Coventry Street)

The AQMAs have been declared due to exceedances of the annual mean objective ( $40 \mu\text{g}/\text{m}^3$ ) for nitrogen dioxide ( $\text{NO}_2$ ), attributable to road traffic, under terms of the Environment Act 1995.

Monitoring of local air pollution carried out across the Wyre Forest District indicate concentrations of nitrogen dioxide have generally decreased over the last 25 years, in common with national trends.

However, current trend analysis has been complicated in recent years due to low bias adjustment factors in 2019, and lockdowns and restrictions affecting travel patterns and behaviours associated with the COVID-19 pandemic in 2020-21.

In 2023, the highest annual concentration of  $\text{NO}_2$  recorded across the Wyre Forest District area was  $40.8 \mu\text{g}/\text{m}^3$  at WG(B) (located in the Welch Gate, Bewdley AQMA).

The highest annual concentration measured in the Horsefair/Coventry Street AQMA in 2023 was  $38.6 \mu\text{g}/\text{m}^3$  at tube (F)69COV. Although, the AQMA has been below the objective for 5 years, the results during the COVID-19 pandemic 2020-2021 are not

considered representative of normal trends. Furthermore, LAQM Technical Guidance (LAQM.TG22) advises local authorities should only consider revocation of AQMAs following three consecutive years of annual mean NO<sub>2</sub> concentrations being lower than 36µg/m<sup>3</sup> (i.e. within 10% of the annual mean NO<sub>2</sub> objective) due to the inherent uncertainty associated with diffusion tube monitoring.

Therefore, the measures outlined in this plan are required to achieve compliance with the LAQM regulatory framework as outlined in the guidance. Consequently, the measures within this plan focus on reducing emissions from sources of nitrogen dioxide pollution. However, it is anticipated that actions taken to reduce NO<sub>2</sub> concentrations across Wyre Forest District will likely result in a linked improvement in other pollutants such as particulate matter.

This Action Plan replaces the Wyre Forest District elements of the previous countywide plan: 'Worcestershire Air Quality Action Plan' (2013).

Significant projects delivered through the past action plan include:

- **Active travel improvements to 1km of the Staffordshire and Worcestershire Canal Towpath** in 2022 brought year-round access from the north of Kidderminster to the Town Centre. A successful Wyre Forest District Council Levelling Up Fund bid enabled the widening and resurfacing of the towpath to continue for a further 1.6km towards Stourport-on-Severn.
- **Activities to encourage residents and businesses to transition to EVs** including demo sessions with EVs roadshow at [SustFest](#), provision of general information and online webinars  
<https://www.youtube.com/watch?app=desktop&v=kAnfMHDnC8I>
- **Improvements to highways infrastructure within the Horsefair/Coventry Street, Kidderminster AQMA.** In September 2020, a new spur road from the Kidderminster Ringway roundabout at the bottom of Blackwell Street into Churchfields was completed creating a one-way system with traffic entering the Kidderminster Ringway using Blackwell Street and traffic exiting the Kidderminster Ringway using Churchfields. This has significantly reduced air pollution within the Horsefair – Blackwell Street arm of the Kidderminster AQMA.

- **Making Air Quality information more accessible.** LAQM reports published, interactive AQMA maps and advice to publicly available on website.
- **Redevelopment of Kidderminster Railway Station in 2021.** The station has direct trains to London, Birmingham and Worcester, and is used for 2.2 million journeys annually, with passenger numbers predicted to rise 50% within five years. The scheme included significant improvements to nearby bus stops and a new pedestrian crossing close to the station on Comberton Hill.
- **Successful bid to Defra Air Quality Grant scheme 2022-23** for purchase and installation of 3 low-cost real time sensors to provide enhanced monitoring network.
- **Technical Guidance Note for Planning produced** to encourage good practice and implementation of standard mitigation measures.

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

In 2018, Public Health England (PHE) estimated that the total cost to the NHS and social care due to NO<sub>2</sub> for where there is robust evidence for an association, is estimated to be £60.8 million by 2025, and £230 million by 2035. This increases to £2.7billion and £9.2billion respectively when diseases with less robust evidence are included<sup>3</sup>.

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

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

<sup>3</sup> Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, 2018

Vehicles are the largest contributor to NO<sub>2</sub> pollution at local roadsides, contributing 80% of the total (on average). This means higher levels of NO<sub>2</sub> are typically focused in high traffic areas within urban centres (such as Bewdley and Kidderminster).

Targeted local action, in addition to a national strategy, is therefore a key part of the solution to tackling NO<sub>2</sub> levels in the UK<sup>4</sup>.

Wyre Forest District Council is committed to reducing the exposure of people in Wyre Forest to poor air quality in order to improve health.

Wyre Forest District Council, in collaboration with air quality partner(s) including Worcestershire County Council (WCC) and supported by local NHS Acute trust, have developed actions that can be considered under eight broad topics:

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

Wyre Forest District Council's priorities are:

- Priority 1 - Reducing Emissions from Transport
- Priority 2 - Public Health and Well-being
- Priority 3 – Sustainable Travel and Transport
- Priority 4 – Planning for Future Development

Proposed actions of the air quality partners are:

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<sup>4</sup> UK plan for tackling roadside nitrogen dioxide concentrations, 2017

- Installation of public EV charging points
- Provision of Local Electric Vehicle Infrastructure (LEVI) for residential off-street parking
- Developing the Worcestershire EV Charging Strategy to support LEVI
- EV charging on NHS estate car parks
- Encouraging awareness of air quality via public access to real time monitoring data
- Improvements to the local bus fleet and services
- Developing and implementation of a Local Cycling and Walking Infrastructure Plan (LCWIP)
- Air quality improvements from New Development
- Local community engagement
- Development and implementation of Travel Plans for NHS sites
- North West Worcestershire Corridor (NWWC) Strategic Network improvements
- Raising awareness of air pollution and positive actions through annual events
- Contributing to the formation of a countywide Air Quality Strategy Communications Plan
- Encouraging awareness and behavioural change interventions linked to focussed real time monitoring data
- Promotion of sustainable travel choices
- Electrification of WFDC depot enabling future transition to ultra-low emission fleet
- Taxi fleet improvement via upgraded vehicle licensing requirements
- Encourage and support sustainable modes of transport to schools and ModeSHIFT star accreditation
- Introduction of a Demand Response Travel service
- Upgrade the Local Authority's Refuse Collection Vehicles (RCV) fleet

In this AQAP, Wyre Forest District Council outline the plan to effectively tackle air quality issues within the council's control. However, it is recognised that there are a large number of air quality policy areas that are outside of the local authority's (LA) influence (such as vehicle emissions standards agreed in Europe), but for which the LA may have useful evidence, and so the council will continue to work with regional and central government on policies and issues beyond Wyre Forest District Council's direct influence.

## Responsibilities and Commitment

This AQAP has been prepared by Worcestershire Regulatory Services (WRS) for Wyre Forest District Council. WRS is a shared service formed from the Environmental Health and Licensing departments of the six Worcestershire District Councils.

This AQAP was prepared with the support and agreement of the following officers and departments:

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- Helen Hawkes, Planning Manager, Wyre Forest District Council
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- Jennifer Moreton, Principal Health and Sustainability Officer, Wyre Forest District Council



## Wyre Forest District Council

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- Molly Hanks, Technical Pollution (Technical Officer), Worcestershire Regulatory Services
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- Rachel Cockayne, Public Health (Practitioner), Worcestershire County Council
- Chris Poole, Technical Pollution (Specialist Lead Officer - Air Quality), Worcestershire Regulatory Services

This AQAP has been approved by:

- Wyre Forest District Council Cabinet
  - And scrutinised by:
- Wyre Forest District Council Overview and Scrutiny Committee

The Director of Public Health for Worcestershire is supportive of the measures in the AQAP and Worcestershire County Council Public Health have contributed to the development of the plan through membership of the Steering Group.

This AQAP will be subject to an annual review and appraisal of progress. Progress each year will be reported in the Annual Status Reports (ASRs) produced by Wyre Forest District Council, as part of the council's statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to Technical Pollution, Worcestershire Regulatory Services at:

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# 1 Introduction

This report outlines the actions that Wyre Forest District Council along with air quality partners, Worcestershire County Council, and supported by local NHS Acute trust will deliver between 2025 and 2030 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 Wyre Forest District.

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 Wyre Forest District Council's Annual Status Report (ASR) on air quality.

The aims and objectives of the plan are to:

- Introduce measures to reduce measured concentrations of nitrogen dioxide (NO<sub>2</sub>) to achieve compliance with national air quality objectives (AQO) (target <10%AQO in line with guidance and Defra LAQM team advice)
- Introduce measures to address sources of NO<sub>2</sub> emissions identified in source apportionment work.
- Raise awareness of impacts of air pollution and encourage behavioural change to improve the health and well-being of Wyre Forest District residents and the local environment.
- Meet the statutory requirements of the LAQM regime and the Environment Act 1995.

## 2 Summary of Current Air Quality in Wyre Forest District

### 2.1 Air Quality Management Areas

Review and assessment has established air quality over the majority of Wyre Forest District is generally good but there are a number of areas within the district that have elevated levels of nitrogen dioxide (NO<sub>2</sub>) due to road traffic.

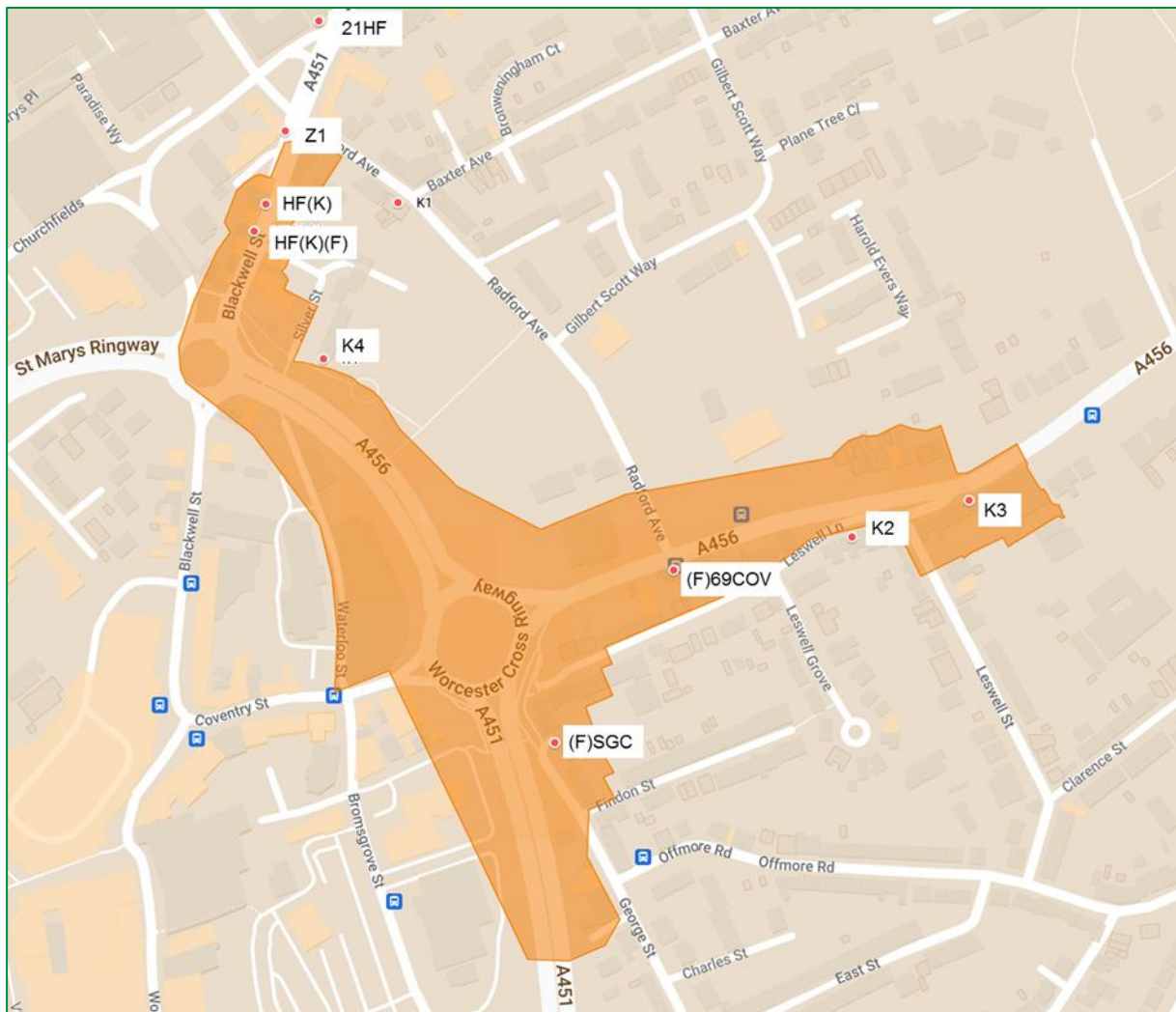
Two Air Quality Management Areas (AQMA's) have been declared by Wyre Forest District Council for exceedances of the annual mean objective for nitrogen dioxide (NO<sub>2</sub>):

- Welch Gate, Bewdley AQMA (Declared January 2003)
- Horsefair/Coventry Street, Kidderminster AQMA (Declared January 2003, amended in July 2009 to include part of the Kidderminster Ring Road and Coventry Street)

**Figure 2.1 Map of Welch Gate AQMA and Monitoring Locations**





**Figure 2.2 Map of Horsefair/Coventry Street AQMA and Monitoring Locations**

Further information on monitoring and assessment of air quality, and Air Quality Management Areas within Wyre Forest District are detailed within the latest [Annual Status Report](#).

## 2.2 Public Exposure

The Welch Gate, Bewdley AQMA comprises a short section of the B4190 west from the junction with Dog Lane encompassing approximately 17 residential properties

including commercial/retail enterprises on ground floor of 2 of the properties. The population living within the AQMA is estimated as 40 people<sup>5</sup>.

The northern arm of the AQMA in Kidderminster predominantly comprises approximately 13 – 20 first floor residential properties above ground floor retail or food premises, a public house and a car sales garage extending along the A451 Blackwell Street from the Horsefair at the junction with Radford Avenue to St Mary's Ringway (A456).

The AQMA then extends southwards along The Ringway A456 encompassing car parking and a medical centre on the western side and St Georges Park on the east. At the Worcester Cross Ringway roundabout the AQMA extends eastwards along Coventry Street A456 to just east of Leswell Street. The Coventry Street arm of the AQMA encompasses the Little Folks Day Nursery, 2 commercial/retail businesses and approximately 39 residential properties along Coventry Street/Birmingham Road A456 and Leswell Lane.

The AQMA also extends to the south from the Worcester Cross Ringway roundabout along The Ringway A451. The western side of this section is dominated by car parks adjacent to commercial offices and a health centre. The eastern side comprises 19 residential properties, approximately 4 supported living flats and a public house aligning the western end of Leswell lane and George Street as far as South Street.

The population of the AQMA is estimated to be between 167 and 184 persons.

## **2.3 Monitoring and Assessment of Air Quality in Wyre Forest District**

Like many parts of the UK, poor air quality in the Wyre Forest District is linked to areas with high volumes of traffic, congestion or 'street canyon' landscapes (where height of the building is greater than width of road) or a combination of these factors.

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<sup>5</sup> Based on available ONS estimations of 2.36 residents per household in UK  
<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2022>

Prior to 2024, monitoring across the Wyre Forest District area of nitrogen dioxide (NO<sub>2</sub>) has been undertaken via a network of passive diffusion tubes located in the main urban centres of Kidderminster, Stourport-on-Severn and Bewdley, and a continuous analyser situated at Wyre Forest House. Additionally, a Zephyr Air Quality Monitor was installed in 2022 in Horsefair, Kidderminster. In 2023, there were a total of 54 monitoring locations across the Wyre Forest District.

In common with national trends, monitoring indicates concentrations of nitrogen dioxide have generally decreased over the last 25 years. However, current trend analysis has been complicated in recent years due to low bias adjustment factors in 2019, and lockdowns and restrictions affecting travel patterns and behaviours associated with the COVID-19 pandemic in 2020-21.

The annual average NO<sub>2</sub> recorded across all of the Wyre Forest District monitoring tubes in 2023 was 25.8µg/m<sup>3</sup> which is a 2.3% decrease from the 2022 value of 26.4µg/m<sup>3</sup>. Additionally, 74% of the diffusion tubes saw a decrease in their mean annual concentration from 2022-2023.

The annual average results for NO<sub>2</sub> in 2022 and 2023 are higher than observed in 2020 and 2021 due to the COVID-19 pandemic. Data from County Council indicates traffic had returned to 98% of pre-pandemic levels by the beginning of 2022 and as such the annual concentrations of NO<sub>2</sub> have also risen.

The measured concentrations at diffusion tube locations in 2023 are not dissimilar to the 2019 data (on average -1.1 µg/m<sup>3</sup> and -2.3% below 2019 records). However, 2019 measurements were subject to application of particularly low bias adjustment factor and not considered indicative of local trends at that time. In comparing 2023 measured concentrations with pre-pandemic levels it is considered appropriate to compare with 2018 recorded data. In 2023 the Wyre Forest District averaged concentrations of 7.3µg/m<sup>3</sup> and 19.3% lower than 2018 data.

There are two tubes that are notable outliers that recorded significant decreases in their annual concentration of NO<sub>2</sub> in 2023 compared to pre-pandemic 2018 data. These are HF(K) and HF(K) (F), both located in the Horsefair/Coventry Street AQMA. In 2023, HF(K) had a decrease of 32.8 µg/m<sup>3</sup> (53.9%) and HF(K)(F) had a decrease of 38.7 µg/m<sup>3</sup> (56.5%) from 2018. Furthermore, the measured concentrations in 2023 are lower than 2020 data when the country experienced significant lockdown

measures and greatest level of reduction of vehicle movements. These results indicate that measures to mitigate air pollution through major road infrastructure completed in 2021 in the Horsefair area have had a significant reducing benefit, although Wyre Forest will continue to monitor if this is the case.

The yearly average NO<sub>2</sub> recorded at the Horsefair Zephyr in Kidderminster in 2023 was 25.3µg/m<sup>3</sup> which is a slight increase from the previous year (25.0µg/m<sup>3</sup>). The co-located diffusion tube, Z1, recorded an annual average of 22.5µg/m<sup>3</sup>.

The yearly average NO<sub>2</sub> at automatic monitoring station WFH (Wyre Forest House in Kidderminster) for 2023 was 11.9µg/m<sup>3</sup> which is a decrease from the previous year (13.0µg/m<sup>3</sup>). This is the second year in a row that the yearly average has decreased for this monitoring station.

In 2023, the highest annual concentration of NO<sub>2</sub> recorded across the Wyre Forest District area was 40.8 µg/m<sup>3</sup> at WG(B) (located in the Welch Gate, Bewdley AQMA). Results from monitoring locations within the AQMAs are shown in Table 2.1 below.

**Table 2.1 Monitoring locations within the AQMAs between 2018 and 2023**

2018 - 2023							
Site No	Location*	2018	2019	2020	2021	2022	2023
(F)69CO V	Coventry Street	<b>50.6</b>	<b>42.2</b>	34.5	35.1	39.3	38.6
(F)SGC	St George's Court	31.6	26.9	22.1	24.8	28.4	27.0
K1	Radford Avenue	23.0	19.9	16.9	16.9	19.8	18.9
21HF	Horsefair	-	22.5	21.2	23.5	27.2	25.1
Z1	Dudley Street,	-	-	-	-	22.1	22.5
HF(K)	Blackwell Street	<b>60.9</b>	<b>50.5</b>	28.4	24.4	28.0	28.1
HF(K)(F)	Blackwell Street	<b>68.5</b>	<b>54.0</b>	29.6	25.9	27.9	29.8
K4	Silver Street	26.6	22.6	19.6	18.2	22.7	21.3
K3	Coventry Street	38.0	30.1	25.3	27.3	29.5	27.6
K2	Leswell Lane	23.2	20.0	16.2	17.0	21.4	20.5
WG(B)	Welch Gate, Bewdley	<b>45.6</b>	37.4	29.4	31.9	37.9	<b>40.8</b>
<b>Objective</b>		<b>40 µg/m<sup>3</sup></b>					

The highest annual concentration measured in the Horsefair/Coventry Street AQMA in 2023 was 38.6 µg/m<sup>3</sup> at tube (F)69COV. Although it has been below the objective

for 5 years, the results during the COVID-19 pandemic 2020-2021 are not considered representative of normal trends. Furthermore, LAQM Technical Guidance (LAQM.TG22) advises local authorities should only consider revocation of AQMAs following three consecutive years of annual mean NO<sub>2</sub> concentrations being lower than 36µg/m<sup>3</sup> (i.e. within 10% of the annual mean NO<sub>2</sub> objective) due to the inherent uncertainty associated with diffusion tube monitoring.

Additionally, it is unclear if some enforced behaviours during the pandemic that led to a decrease in the number of journeys made, such as virtual meetings replacing face to face and an increase in working from home, will continue to have the beneficial impact on reducing concentrations of NO<sub>2</sub> in future years. This is due to insufficient number of years of data post-pandemic available to enable confident trend analysis at this time.

Therefore, the measures outlined in this plan are required to achieve compliance with the LAQM regulatory framework as outlined in the guidance.

As outlined above, the AQMAs have been declared for exceedances of the annual mean AQO for NO<sub>2</sub>, and therefore the measures contained within this plan focus on reducing emissions from sources of nitrogen dioxide pollution.

However, LAQM. Policy Guidance 2022 and the Air Quality Strategy 2023 outline the role local authorities have in delivering reductions in particulate matter and contributing to national targets for PM<sub>2.5</sub>. Local authorities are required to report on any local data and actions to improve, or impacting on, PM<sub>2.5</sub> concentrations within Annual Status Reports. The most recent reports are available to view and download at [Annual Status Report](#).

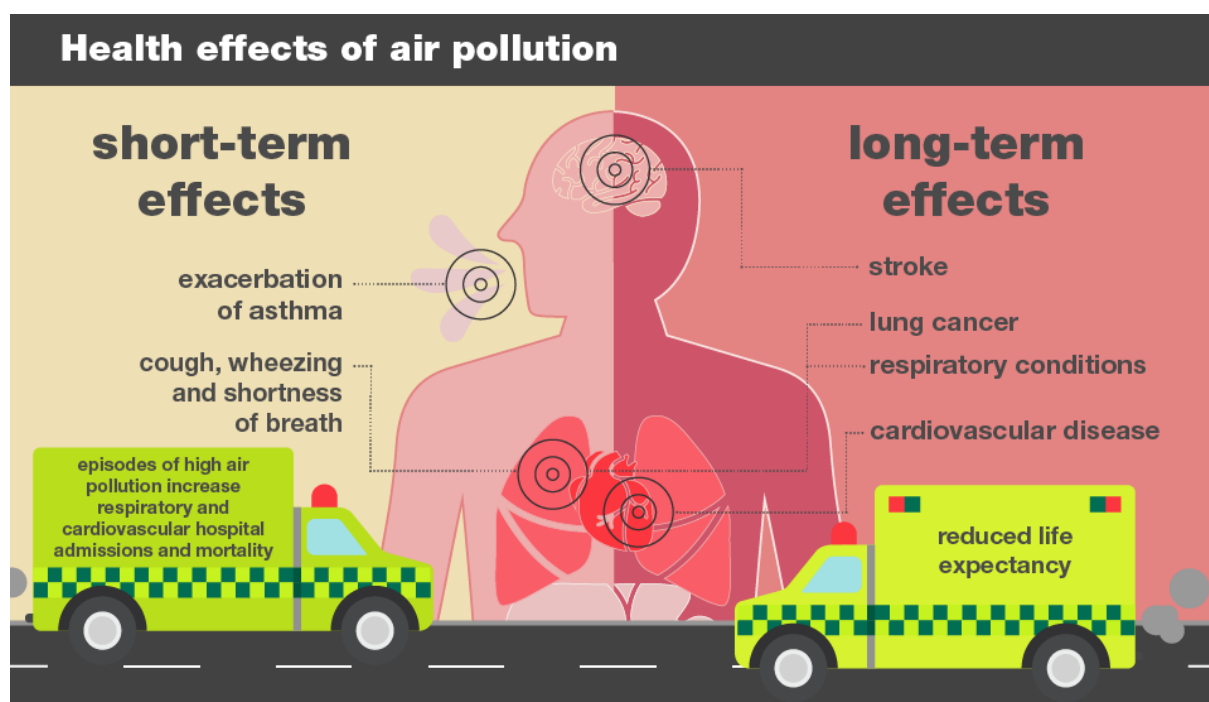
In February 2023, Defra confirmed that WRS had been successful in a bid to the Air Quality Grant Scheme 2022/23 to establish an enhanced real-time air quality monitoring network across Worcestershire. The scheme involves the installation of approximately 26 'low-cost Air Quality Monitors' across the county which measure NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Three of the monitors were installed in January 2024 and are currently operating within the Wyre Forest District, in addition to the existing sensor located in Horsefair. The first calendar year's annual monitoring results from these monitors will be reported on in the ASR 2025.

## 3 Wyre Forest District Council's Air Quality Priorities

### 3.1 Public Health Context

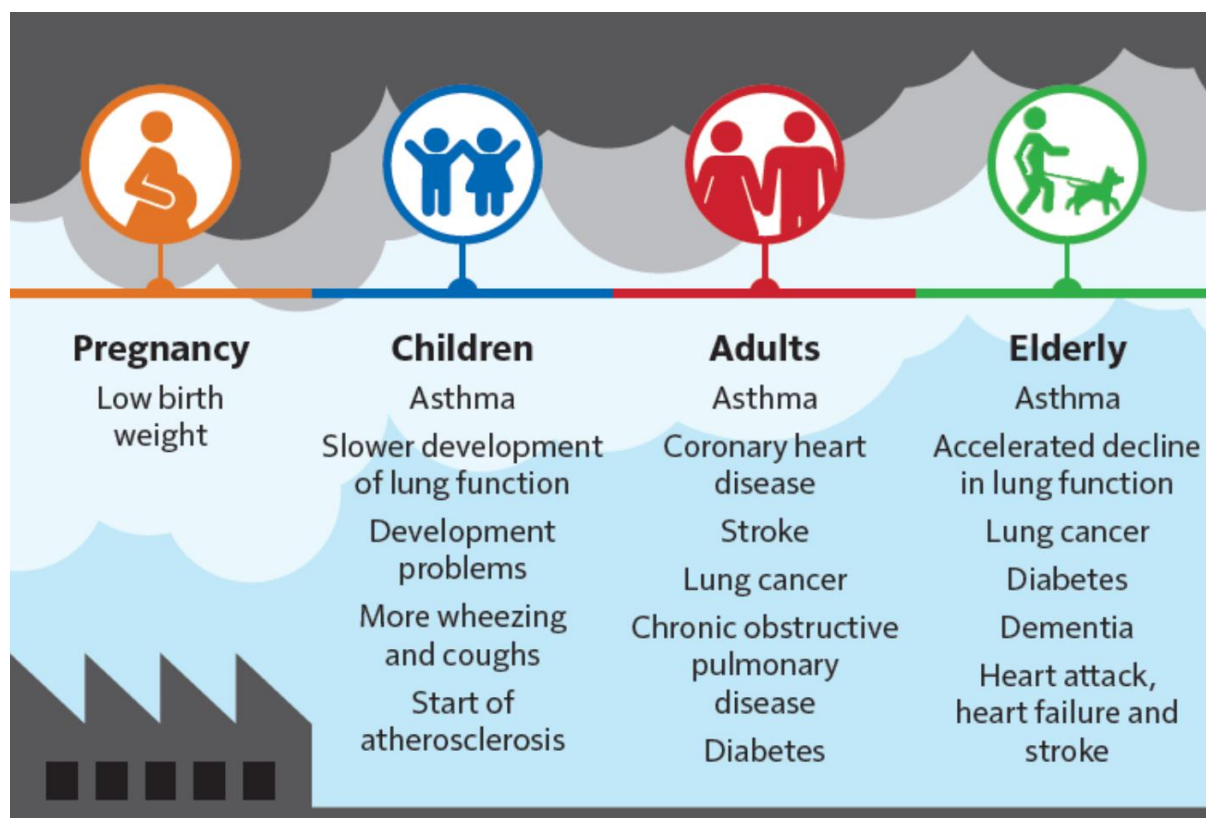
The Chief Medical Officer's (England) Annual report 2022 states 'Air pollution affects people's health throughout their lives, including before birth, in the very young, through to older adults. Exposure to air pollution, indoors and outdoors, over a long period of time, reduces people's life expectancy. There is clear evidence that air pollution contributes to the initiation and development of cardiovascular and respiratory diseases, and can cause lung cancer. The mortality burden of air pollution in England is estimated to be between 26,000 and 38,000 a year, but in addition many people suffer avoidable chronic ill health as a result of it. Improvements in air quality have been associated with improved health outcomes – for example, reductions in air pollution in London have led to reduced childhood asthma hospital admissions.'

**Figure 3.1 Health effects of air pollution**



Source: Public Health England (14 Nov 2018) [Health matters: air pollution - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/health-matters-air-pollution)



**Figure 3.2 Air pollution effects through lifetime**

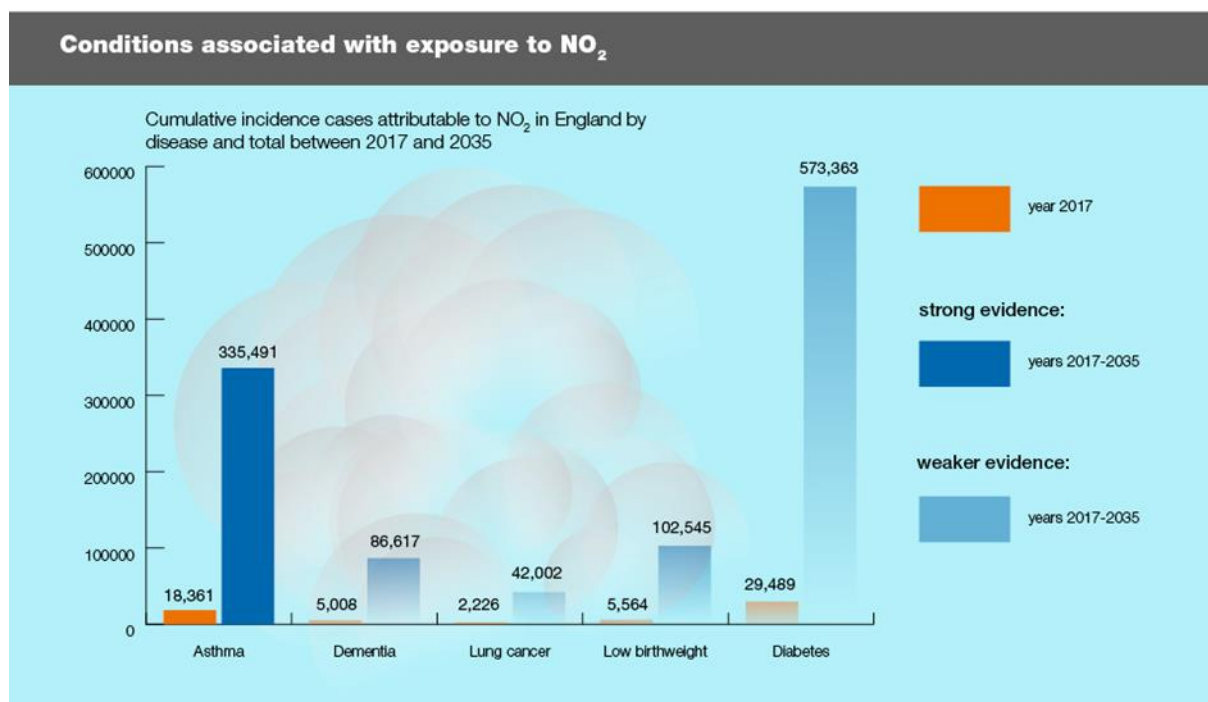
Source: Chief Medical Officers Report 2022

### 3.1.1 Health Impacts of nitrogen oxides

Nitrogen oxides (NO<sub>x</sub>) are a group of gases that are predominantly formed during combustion and emitted in the form of nitric oxide (NO). The main sources are power generation, industrial, combustion and road transport. When NO reacts with other gases present in the air, it can form nitrogen dioxide (NO<sub>2</sub>), which is harmful to health.

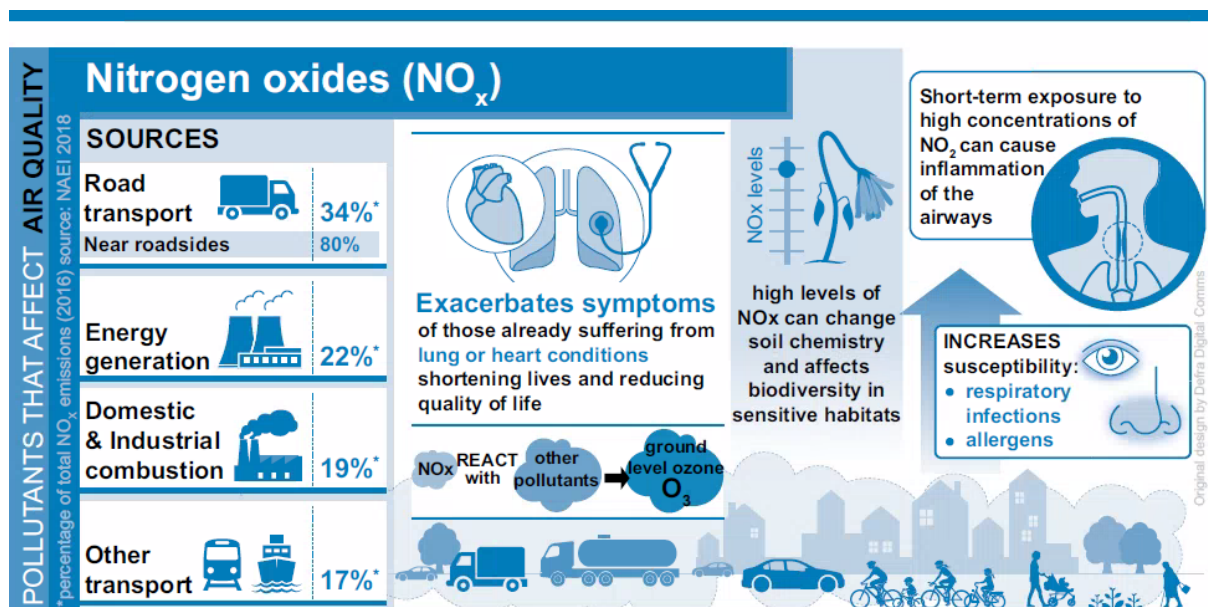
A notable source of NO<sub>2</sub> is road traffic – which has made it difficult to distinguish the effects seen in epidemiological studies for NO<sub>2</sub> from those of particulate matter. However, the evidence associating NO<sub>2</sub> with health effects continues to grow.<sup>6</sup>

<sup>6</sup> Chief Medical Officer's Annual Report: Air Pollution, 2022

Figure 3.3 Conditions associated with exposure to NO<sub>2</sub>

Source: Public Health England (14 Nov 2018) [Health matters: air pollution - GOV.UK \(www.gov.uk\)](https://www.gov.uk/health-matters/air-pollution)

Figure 3.4 Sources and symptoms of nitrogen oxides



Source: Clean Air Strategy 2019



### 3.1.2 Economic Impact

In September 2020, CBI Economics produced 'Breathing Life into the UK Economy', a report that quantifies the economic benefit to the UK of meeting WHO Air Quality guidelines. The report commissioned by the Clean Air Fund states:

'Air pollution impacts human health and the productivity of the UK workforce, which in turn impacts the economy. Analysis conducted by CBI Economics in 2020 estimated that clean air in line with the World Health Organisation's (WHO) guidelines could deliver a £1.6bn boost to the UK economy each year. This would be on top of savings to NHS and social care budgets from treating fewer patients with health conditions associated with pollution.

Evidence shows a key link between NO<sub>2</sub> and health outcomes. Reducing NO<sub>2</sub> therefore, has a key role to play in realising this economic potential. NO<sub>2</sub> exposure leads to both short-term and long-term health impacts, exacerbating respiratory conditions such as asthma, possibly increasing the likelihood of lung cancer, stroke, and cardiovascular disease, and has been linked to adverse birth outcomes. This comes at a cost to the healthcare system.'<sup>7</sup>

In 2018, Public Health England (PHE) estimated that the total cost to the NHS and social care due to NO<sub>2</sub> for where there is robust evidence for an association, is estimated to be £60.8 million by 2025, and £230million by 2035. This increases to £2.7billion and £9.2billion respectively when diseases with less robust evidence are included.<sup>3'</sup>

## 3.2 Planning and Policy Context

The following supporting planning and policy documents contribute toward improvements in air quality in the Wyre Forest District:

**Bus Service Improvement Plan (2021):** Worcestershire County Council's [strategy](#) focusses on road and rail passenger transport services within the county, including

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<sup>7</sup> Breathing Life into the UK Economy, 2020

Home to School, bus, taxi, Community Transport and other community-based bespoke transport initiatives. Further information on how this strategy is contributing towards reducing air pollution is outlined in section 5 AQAP Measures 5.1.7, 5.1.8, 5.1.21 and 5.1.22.

**Clean Air Strategy (2019):** This [strategy](#) sets out government actions to reduce emissions of air pollution from transport, home, farming and industry.

**Environmental Improvement Plan (2023):** This 25 year [plan](#) outlines the governments approach to achieve goal of clean air including meeting compliance with the 40µg/m<sup>3</sup> limit for nitrogen dioxide.

**Joint Health and Well-being Strategy (2022 – 2032):** The [strategy](#) outlines Worcestershire Health and Wellbeing Board's commitment to improving mental health and wellbeing, and includes an ambition to protect and promote the positive benefits of the environment through 'understanding and addressing air quality and climate change in Worcestershire'.

**Local Transport Plan (2018-2030):** Worcestershire County Council has responsibility for strategic transport issues in the county and published the fourth [Local Transport Plan \(LTP4\)](#) in 2017. The LTP includes significant transport infrastructure improvements for example active travel corridors, redesign of Highways such as Horsefair to reroute traffic from the AQMA, reduce congestion, and provide safe environments for alternative modes of transport which all contribute towards improved air quality.

**National Planning Policy Framework:** The [NPPF](#) is a material consideration in planning decisions and provision of housing and other development in a sustainable manner. Minimising pollution is part of the environmental objectives of the framework.

**Technical Guidance Note for Planning:** WRS have produced a [technical guidance document](#) for Local Planning Authorities, developers and consultants on approach and requirements in respect of environmental protection matters, including air quality, and planning applications.

**The Road to Zero (2018):** This sets out governments policies to achieve cleaner road transport and is a significant [strategy](#) in reducing NO<sub>2</sub> nationally.

**Streetscape Design Guide:** Worcestershire County Council's [Streetscapes Design Guide](#) sets out guidance for homeowners, developers and consultants, in formulating

designs and making applications for planning permission. It includes standards for parking provision, Electric Vehicle Charging Points and secure cycling facilities.

**The Wyre Forest District Local Plan (2016 – 2036):** The [Local Plan](#) sets out the council's long-term vision and strategic context for managing and accommodating growth within the district until 2036 in order to contribute to the achievement of sustainable development. Policy SP.16 sets out that development should minimise and mitigate negative impacts of air quality.

### 3.3 Source Apportionment

The AQAP measures presented in this report are targeted towards the predominant sources of emissions within Wyre Forest District Council's area.

A source apportionment exercise has been carried out utilising 2023 monitoring data and commissioned traffic surveys in the same year Appendix G, provided in the accompanying Technical Appendices, details the source apportionment exercise undertaken.

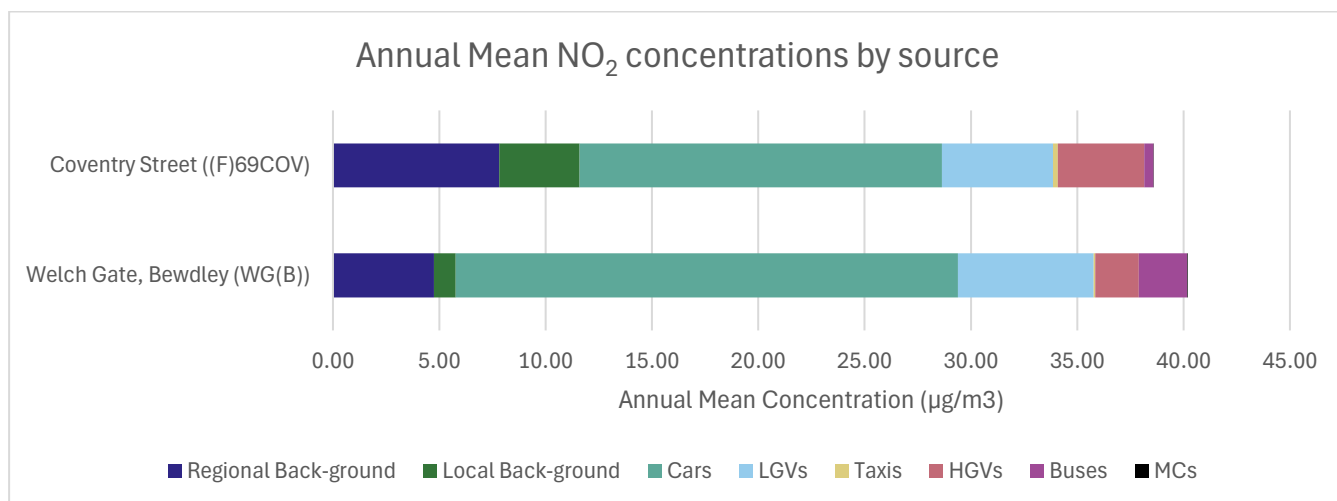
The percentage source contributions and overall concentrations within the AQMA's identified by the assessment are summarised in and Figure 3.5 and Figure 3.6 below.

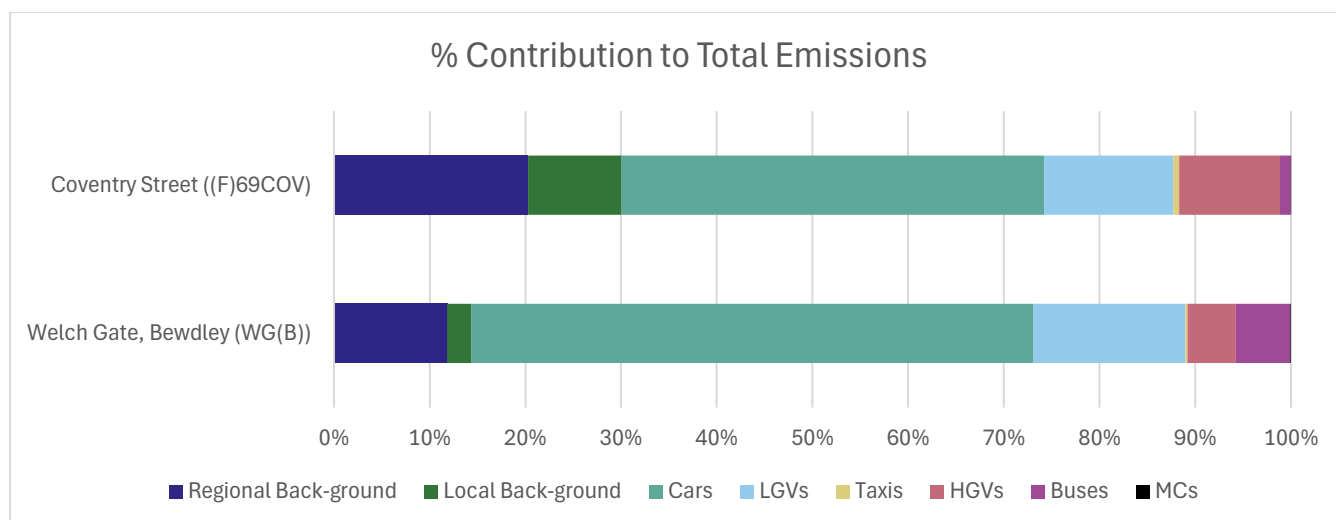
**Table 3.1 Annual Mean NO<sub>2</sub> concentrations by source and percentage contributions**

Annual Mean Concentration (µg/m <sup>3</sup> )									
Site ID	Regional Back-ground <sup>1</sup>	Local Back-ground <sup>2</sup>	Cars	LGVs	Taxis	HGVs	Buses	MCs	Total
Welch Gate, Bewdley (WG(B))	4.75	1.01	23.63	6.37	0.08	2.04	2.28	0.03	40.2
Coventry Street ((F)69COV)	7.83	3.78	17.03	5.22	0.23	4.06	0.44	0.01	38.6
% Contribution to Total									
Site ID	Regional Back-ground	Local Back-ground	Cars	LGVs	Taxis	HGVs	Buses	MCs	Total
Welch Gate, Bewdley (WG(B))	11.82%	2.52%	58.77%	15.86%	0.20%	5.08%	5.68%	0.07%	100%
Coventry Street ((F)69COV)	20.27%	9.79%	44.13%	13.53%	0.59%	10.53%	1.14%	0.02%	100%

1 Regional background includes emissions from sources not in LA control e.g. Motorways outside of study area, Industrial sources, Domestic properties, Railways, Rural sources, Others

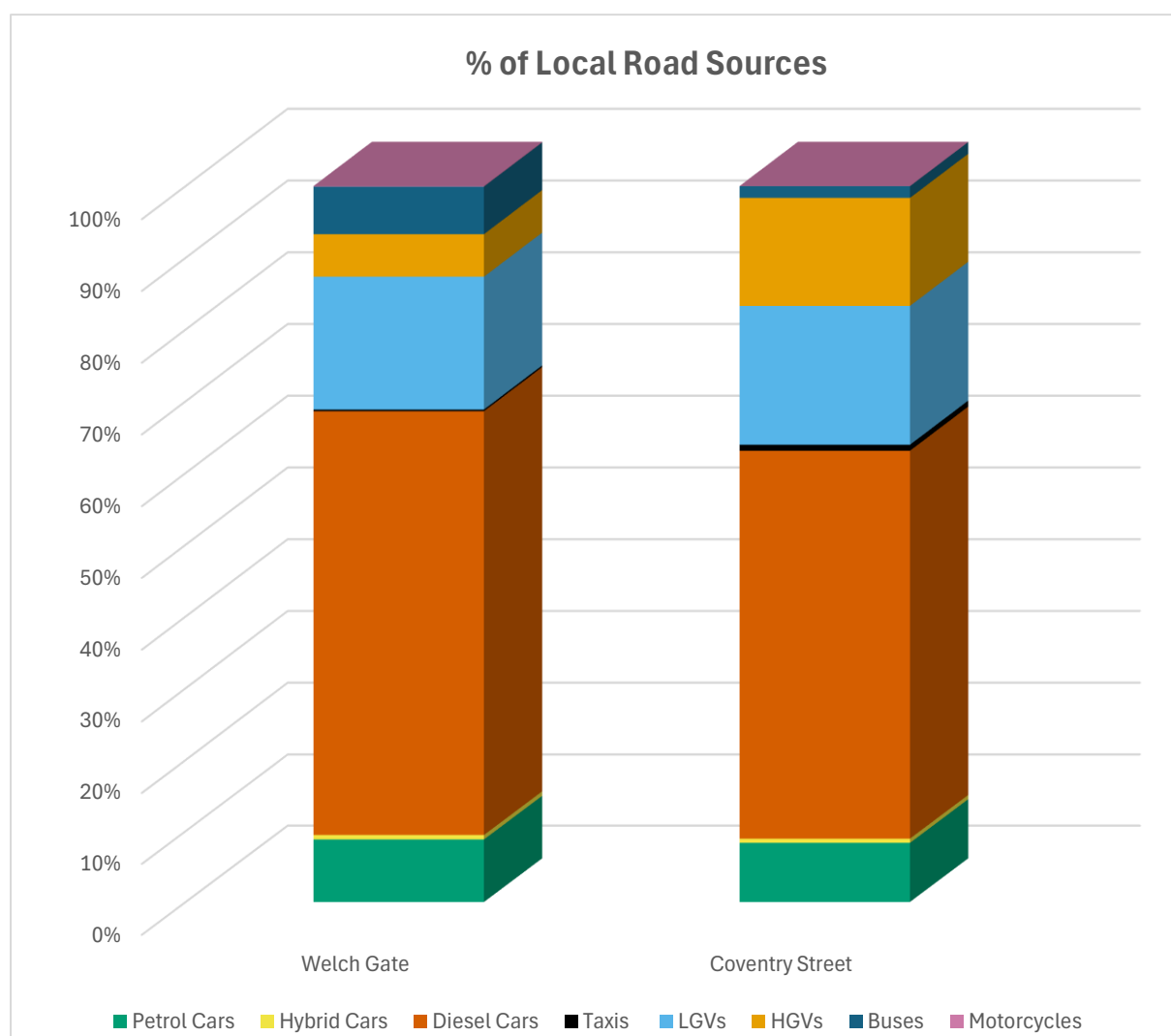
2 Local background includes emissions from sources LA have some influence over e.g. Primary A roads, Minor Roads and Point sources in and outside of study area

**Figure 3.5 Annual Mean NO<sub>2</sub> concentrations by source**

**Figure 3.6 Percentage source contributions**

The outcome of the source apportionment exercise demonstrates background concentrations contribute a significant proportion of the overall concentration of NO<sub>2</sub> measured within each of the AQMAs, 14.34% in Welch Gate, Bewdley and 30.06% in Coventry Street, Kidderminster. As the local authority is largely unable to influence regional background levels, and local background concentrations are predominately a result of traffic sources on other local roads, it is more useful to consider the source apportionment of the local traffic sources in isolation when developing actions for improving air quality.

Additionally, because of the non-linear relationship between NO<sub>x</sub> and NO<sub>2</sub> emissions it is more appropriate to consider total NO<sub>x</sub> (Nitrogen Oxides) emissions of the local traffic contribution for source apportionment, as shown in Figure 3.7 below.

**Figure 3.7 Local Road NOx proportions by vehicle type in each AQMA**

Cars are shown to comprise the largest proportion of traffic volume, 86.1% in Welch Gate, Bewdley and 82.9% in Coventry Street, Kidderminster contributing to 68% and 62.5% of vehicle source emissions respectively.

Light Goods Vehicles (LGV) comprise a smaller proportion of the traffic volumes ranging between 11.11% of vehicles in Welch Gate, Bewdley and 11.94% in Coventry Street, Kidderminster but contribute larger proportions of vehicle emissions of 18.51% and 19.35% of vehicle source emissions respectively.

Heavy Good Vehicles (HGV) make up 5.08% of vehicles in Welch Gate, Bewdley and 10.53% in Coventry Street, Kidderminster contributing to 5.93% and 15.05% of vehicle source emissions respectively.

Buses comprise 5.68% of vehicles in Welch Gate, Bewdley and 1.14% in Coventry Street, Kidderminster contributing 6.64% and 1.63% of vehicle source emissions respectively.

### 3.4 Required Reduction in Emissions

The source apportionment assessment demonstrates a reduction of 13.43% of emissions within Welch Gate, Bewdley and 10.74% within Coventry Street, Kidderminster would be necessary across all vehicle types to achieve 10% below the annual average of nitrogen dioxide objective within the AQMAs.

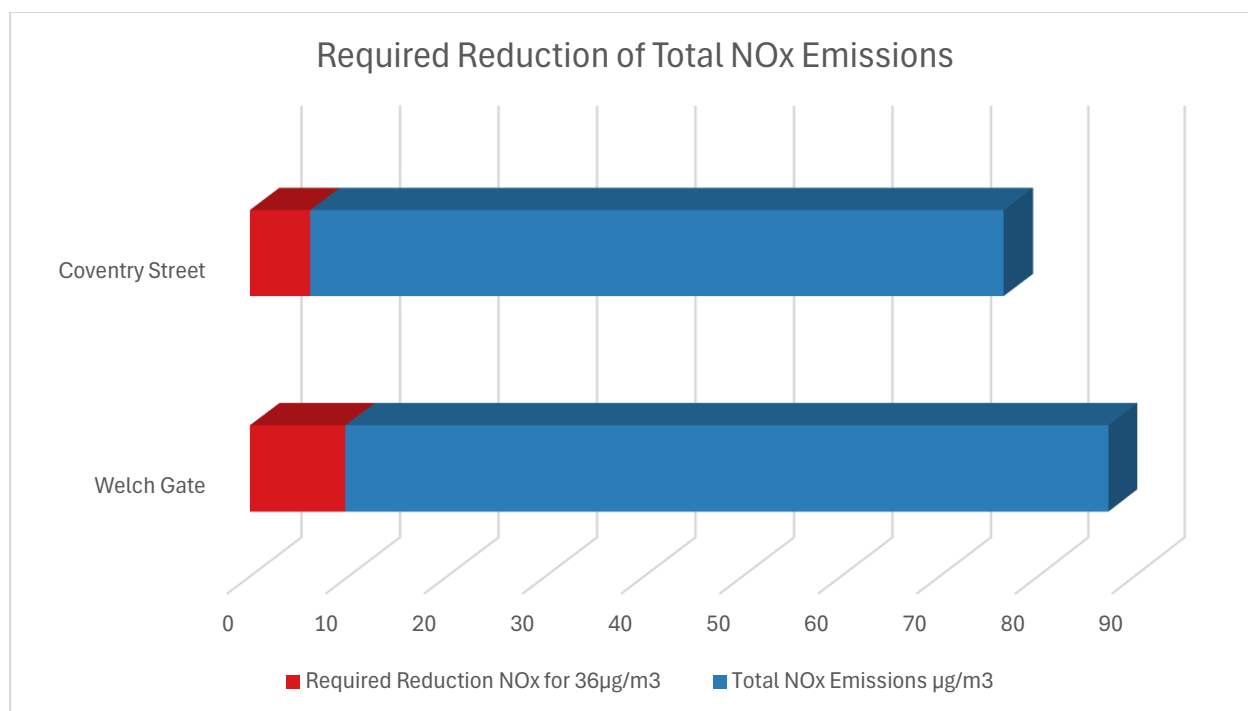
The assessment indicates targeting individual types of vehicles in isolation within the AQMAs is unlikely to lead to the annual mean objective being achieved unless the reductions are very large, 20% of cars or 75% of LGVs in Welch gate, Bewdley or 20% of cars or 60% of LGVs in Coventry Street, Kidderminster.

Therefore, it is likely that a reduction across all vehicle types, or combination of several categories, will be required to achieve the target of 10% below the AQO. Table 3.2 below summarises the reductions required.

**Table 3.2 Emission reduction required**

Location	Emission Reductions Required to Meet -10% Objective (NO <sub>2</sub> )	All Vehicle Reduction to Meet -10% Objective (NO <sub>x</sub> )	Highest Roadside Contributor	2nd Roadside Contributor	Single Vehicle Reduction to Achieve Objective
Welch Gate Bewdley	4.62	13.43%	Diesel Cars – 50.67%	LGV – 15.86%	Cars 20% or LGV 75%
Coventry Street Kidderminster	2.90	10.74%	Diesel Cars – 37.88%	LGV – 13.53%	Cars 20% or LGV 60%

Figure 3.8 below shows the required reduction in NO<sub>x</sub> emissions to achieve compliance and total emissions in each AQMA.

**Figure 3.8 Required improvements in NOx for each AQMA**

### 3.5 Key Priorities

Wyre Forest District Council has identified the following priorities for the development and implementation of the air quality action plan:

#### Priority 1 – Reducing Emissions from Transport

Considering the outcomes of the source apportionment assessment a key priority is to implement direct interventions which reduce emissions of NO<sub>2</sub> from vehicles. Measures proposed include improvements to council operated fleets, public transport fleets and amended licensing criteria for locally registered taxi fleet.

#### Priority 2 - Public Health and Wellbeing

Air pollution impacts on human health and, therefore, a priority for Wyre Forest District Council are measures raising awareness, increasing community understanding and encouraging behavioural change to reduce individual's exposure to and impact on air quality.

Measures proposed, in conjunction with Public Health at Worcestershire County Council and WRS, include encouraging awareness through publicly available real



time monitoring information, developing a communications plan, publicising via events such as annual Clean Air Day, and working with local schools.

### **Priority 3 – Sustainable Travel and Transport**

Increased uptake of more sustainable travel and transport options has a significant impact on reducing emissions from the local vehicle fleet and improving air quality. Sustainable measures proposed within the action plan include installation of additional public EV charging points and a strategy for future charging, bus service improvements, travel planning and delivery of the Local Cycle Walking and Infrastructure Plan (LCWIP).

### **Priority 4 - Planning for Future Development**

Planning for future development to limit its impact or improve existing air quality and protect the future site occupants through good design or mitigation measures is a key priority. Building on existing local policy and guidance Wyre Forest District Council in collaboration with local developers have secured mitigation measures and financial contributions to reduce impacts of two significant new developments in Lea Castle and Kidderminster East Extension.

Measures include: a Mobility Hub to provide communal cycle connectivity, electric vehicle charging points, online shopping collection boxes, contributions towards community transport, a new bus service, public transport information and travel planning. Each development will have a primary school, local retail centre community hub and retail centre to reduce reliance on the private car and achieve a 20-minute walking neighbourhood.

Additionally, incremental contributions have been secured to future road infrastructure changes on the North West Worcestershire Corridor (NWWC) and within the Lea Castle area that connect to the Horsefair and Coventry Street AQMA. It is anticipated these significant road infrastructure improvements will benefit air quality within the AQMA.

## 4 Development and Implementation of Wyre Forest District Council's AQAP

### 4.1 Consultation and Stakeholder Engagement

In developing this AQAP, the Council 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.

In addition, we have undertaken the following stakeholder engagement:

- Public consultation via Wyre Forest District Council's website
- Local press release
- Social Media
- Publication in December edition of Wyredin

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

**Table 4.1 Consultation Undertaken**

Consultee	Consultation Undertaken
The Secretary of State	Yes
The Environment Agency	Yes
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

A steering group was formed to progress a new AQAP in May 2024.

The group membership comprised officers from Wyre Forest District Council, Worcestershire County Council and WRS from public health, technical pollution (air quality), strategic planning, sustainability, highways and transport disciplines, and also representation from the NHS. Full details of the group members are provided above in Responsibilities and Commitment.

### 4.2.1 Steering Group Activity

The Steering Group has overseen the development of this AQAP following the guidelines set out in Chapter 2 of LAQM.TG22 and with reference to best practice examples provided by Defra online and through events.

The Steering Group has met monthly between 21<sup>st</sup> May to 4<sup>th</sup> September 2024.

Going forward, it is anticipated the Steering Group will continue to meet less frequently and as part of a countywide focussed group to regularly review progress and impact of air quality improving interventions.

A separate Air Quality Public Health working group was established in 2023 to progress interventions and begin work on a strategy for improving air quality and public health across Worcestershire, following the finalisation of this AQAP and required works in other parts of the County at the end of 2024.

At the time of writing, the future focus, contributors, and responsibilities of the working group is under review with air quality partners. It is anticipated this will be resolved in the coming months and the group will be reformed and continue work in early 2025.

### 4.2.2 Timeline of works

The timeline for the various stages and delivery of a revised countywide AQAP, and establishment of a new countywide Air Quality Strategy, were set out in the ASR 2023. However, following the introduction of new enforcement policy by Defra in June 2023, it has been necessary to amend the planned framework to prioritise production of separate AQAPs for each district in Worcestershire with an AQMA.

Following discussions with Defra LAQM Team in September 2023, Wyre Forest District Council were granted an extension to the timeline for delivery of a draft AQAP to November 2024 in light of committed priorities elsewhere in the county.

Table 4.2 shows the timeline of works undertaken by the Steering Group and timescale for publication of final plan.

**Table 4.2 Timeline of Steering Group work and publication of plan**

Timeline	Phase
<b>Sept – Oct 2023</b>	Discussions with Defra LAQM team and establishment of revised timeline for Wyre Forest District Council AQAP submission
<b>May 2024</b>	Steering Group formed, and inaugural workshop held
<b>June – July 2024</b>	Identification, filtering and shortlisting of potential measures and data gathering to enable modelling (quantifying impact) of measures
<b>August 2024</b>	Impact Assessment of focus measures (cost benefit analysis). Complete Table 5.1 - Determine funding sources & KPIs (monitoring and evaluation), delivery timelines.
<b>Aug - Sept 2024</b>	Drafting of AQAP report
<b>Oct - Nov 2024</b>	Submission of Draft AQAP to Corporate Leadership Team, Cabinet, Overview and Scrutiny Committee, and Director of Public Health for approval and revisions and Defra
<b>Dec 2024 – Feb 2025</b>	2 month public and statutory consultation on Draft AQAP
<b>Feb - Mar 2025</b>	Revisions and submission of Final AQAP for review by Corporate Leadership Team and approval by Political Committees at Wyre Forest District Council and DoPH
<b>April 2025</b>	Publication of Final AQAP and submission to Defra

**Table 4.3 Timetable for updates and revisions to the AQAP**

Timeline	Phase
<b>Mar - June 2026</b>	First annual review and update for Annual Status Report 2026
<b>Mar – June 2027</b>	Annual review and update for Annual Status Report 2027

Timeline	Phase
<b>Mar – June 2028</b>	Annual review and update for Annual Status Report 2028
<b>Mar – June 2029</b>	Annual review and update for Annual Status Report 2029
<b>April 2030</b>	Revision of AQAP*

\*If required by LAQM regulations at the time

Additionally the Steering Group will meet at least 6 monthly to review progress of measures.

#### 4.2.3 Approach to shortlisting of measures and assessment of impact

All potential measures were subjected to an established measure selection process comprising two stages:

- Stage 1 Qualitative Assessment
- Stage 2 Impact Assessment/Cost Benefit Analysis

The process for both stages has been established with reference to LAQM guidance and review of available best practice AQAPs and is summarised in Figure 4.1 and Figure 4.2 below.

For the Stage 1 Qualitative Assessment the Steering Group member's professional expertise and knowledge were applied to potential measures to determine:

- an anticipated timeline for implementation,
- level of social and political support for measure,
- practicality of implementing within AQMAs,
- feasibility of delivery considering the above 3 categories
- potential reduction in NO<sub>2</sub> emissions

The assessment also included identification of available sources of data to assist quantifying impact of measures progressed to the next stage or the potential for data becoming available within the lifetime of the AQAP. Further detail on the Stage 1 process is provided in Appendix C: Qualitative Assessment of Measures (Shortlisting).

The group also considered a two other factors at this stage:

- sources impacted (e.g., cars, vans, buses, HGVs),
- identify potential funding sources or opportunities.

Measures were ranked based utilising a RAG (Red, Amber, Green) scale, and 4 groups of measures were established:

1. **Focus Measures** - quantifiable or non-quantifiable shortlisted measures progressing to Stage 2 – Impact Assessment as shown in Table 5.1 and detailed in Section 5 AQAP Measures.
2. **Potential Future options** - measures with potential to be developed or delivered in future not shortlisted at this time due to timeline, lack of support, information or data, or practicality of delivery or combination of those. Further detail is provided in Appendix D: Outcomes of Stage 1 Shortlisting Process.
3. **Measures not being pursued** - measures identified as non-deliverable due to social or political opposition, cost, lack of funding, practicality of delivery, or no or little AQ impact anticipated within the AQMAs, or combination thereof. These are identified in Appendix B: Reasons for Not Pursuing Action Plan Measures.
4. **In place** - actions identified as already being delivered and contributing to air quality improvements at the time, not considered further.

The outcome of the Stage 1 Qualitative Assessment is shown in Appendix D: Outcomes of Stage 1 Shortlisting Process.

Figure 4.1 Stage 1: Qualitative Assessment of Measures

RAG	Timeline for implementation	Support for measure	Practical Application	Deliverability	Anticipated Air Pollutant reduction	Data to quantify impact	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in the future
Green	Within 5 years	Likely Social and political support	Feasible	Yes	Significant	Available	Yes/No (Green/Red)	Potentially Within lifetime of AQAP
Amber	Potentially within 5 years	Potential social and/or political support	Potentially feasible	Potentially	Low to Medium impact or insufficient info to make a determination	Not available at time of draft plan, anticipated within 5 years		Post lifetime of this AQAP, consideration for
Red	Greater than 5 years	Unlikely social and political support	Not feasible	No	Negligible or Negative	Not available or forthcoming in next 5 years		Unlikely to be progressed in the future

**Figure 4.2 Stage 2: Impact Assessment**

AQ Improvement Cost		Negligible	small	medium	large	Very large
		1	2	3	4	5
Neutral	8	8	16	24	32	40
Low	7	7	14	21	28	35
Low - Medium	6	6	12	18	24	30
Medium	5	5	10	15	20	25
Medium - High	4	4	8	12	15	20
High	3	3	6	9	12	15
High – Very High	2	2	4	6	8	10
Very High	1	1	2	3	4	5

For the Stage 2 Impact Assessment, a cost benefit analysis was applied to the identified focus measures.

Costs were scored according to the bandings identified below, adopted from LAQM guidance. The amounts for each measure were determined either from known costs, where a measure is currently being implemented, or application of professional experience and knowledge for measures at an earlier stage of development.

A numerical score identified in Figure 4.2, above, corresponding to the banding below was applied to each measure for the overall cost and the cost to local authority of the action taken, to determine an average cost score.

**Table 4.4 Description of cost bandings**

Cost Bandings	Anticipated overall costs
Neutral	No additional cost or part of existing spend
Low	<£10k
Low - Medium	£10k – £50k
Medium	£50k - £100k
Medium - High	£100k - £500k
High	£500k - £1m
High – Very High	£1m - £10m
Very high	> £10m



The impact of measures were scored according to the bandings below. The bandings were determined from the source apportionment work and identified required reduction in NO<sub>x</sub> concentrations to achieve compliance within each AQMA.

**Table 4.5 Description of Air Quality Impact bandings**

<b>AQ Impact</b>	<b>Proportion of Emissions Reduction</b>	<b>Approx equivalent concentration (NO<sub>x</sub>)</b>
Negligible	<0.2%	<0.15 µg/m <sup>3</sup>
Small	0.2 – 1.5%	0.15 – 1 µg/m <sup>3</sup>
Medium	1.5 – 5%	1 – 4 µg/m <sup>3</sup>
Large	5 - 10%	4 - 7 µg/m <sup>3</sup>
Very Large	>10%	>7 µg/m <sup>3</sup>

The impact of each measure was determined via modelling where sufficient and appropriate data was available to enable quantification. However, it is recognised, within guidance (LAQM.PG22), that it is easier to quantify some measures more than others. For example, a reduction in emissions can be calculated from improvements in combustion engines such as replacing a Euro Code (EC) IV fleet with EC VI vehicles. Other measures, such as those designed to encourage a change in travel behaviour, are more difficult to quantify as the likely number of removed vehicle journeys is unpredictable.

The approach taken has been to assume a negligible or small impact at best where it has not been possible to quantify the impact of a measure, and the application of professional experience and knowledge to determine which banding is most applicable. Further information on the approach to modelling is outlined within the next section.

An overall score for each measure was determined by multiplying the Cost score average by the Impact Score:

**Cost Score Average (Overall cost + Cost to LA) x Impact Score = Overall Score**

The measures are then ranked in order of overall score from highest to lowest which is reflected in Table 5.1. A summary of the assessment is provided in Appendix E: Outcomes of Stage 2 Impact Assessment.

#### 4.2.4 Approach to modelling and quantification of measures

For modelling purposes, WRS has used the most recent available [Emissions Factor Toolkit](#) (EFT) v12.0.1 to calculate reduction in emissions of NO<sub>x</sub> (in g/km (grammes per kilometres)). This complies with LAQM guidance, and additionally is the approach used within the source apportionment studies.

For each quantifiable measure, WRS has used the EFT to calculate the reduction in emissions of NO<sub>x</sub> (in g/km) within each AQMA compared with the outcomes of the source apportionment studies. This complies with advice received from LAQM helpdesk operated by Bureau Veritas on behalf of Defra.

The EFT is published by Defra to assist local authorities in carrying out assessments of local air quality as part of LAQM duties under the Environmental Act 1995 as amended by the Environment Act 2021. The EFT allows users to calculate road vehicle pollutant emission rates for NO<sub>x</sub>, and other pollutants, for a specified year, road type, vehicle speed and vehicle fleet composition. It utilises COPERT v5.6 NO<sub>x</sub> and PM speed-based emissions factors as taken from the European Environmental Agency (EEA) emission calculation tool.

Output from the EFT is provided as total emissions of NO<sub>x</sub> in g/km broken down by vehicle type over specified link distance (length of AQMA) and period (year).

It should be noted that model outputs are based upon national fleet assumptions embedded within the Emissions Factor Toolkit (EFT). These may not be wholly representative of the local vehicle fleet composition. Therefore, where local data is available, such as bus fleet data, this has been used to update the corresponding assumptions within the EFT to provide outputs more representative of local fleet emissions.

Additionally, the results of the modelling approach should be considered as indicative only, rather than determined concentration reductions. Furthermore, the EFT does not include spatial impacts of street canyon effects, weather impacts or idling at junctions. Assessment of such impacts requires a more complex model, supporting data and resource which were not available during the production of this AQAP.

## Common Modelling Parameters

The proportions of each vehicle type determined from the source apportionment studies for each AQMA has been used as a baseline for each modelling scenario.

A number of modelling scenarios using the latest toolkit (EFT 12.0.1) were ran with amendments to proportions of vehicle types from the source apportionment baseline determined from reductions to vehicle parcs projected by specific measure impacts with consideration for appropriate fleet growth factors in 2029-2030. Inputs and outputs of each modelled scenario are shown in Appendix K: Modelled Measures in the accompanying Technical Appendices document.

The 'All Vehicle Type' option was selected for modelling impact of transition to EV, and the measures involving buses were run using 'Detailed Option 2' as required less detail for each vehicle type. All modelled scenarios were run providing outputs in emission rates of NO<sub>x</sub> (g/km) and additional breakdown by vehicle. Details of all model options are outlined within the [Eft v12.0.1 User Guide](#).

A number of input parameters within the 'All Vehicle Type' option required additional detail determined from local fleet data or research of nationally available projections:

- Split between diesel and EV power trains for Rigid and Artic HGVs from available DfT road traffic statistics and projections for 2023 – 2029.
- Petrol, Diesel and Low Emission Vehicle (LEV) splits for cars and LGVs were determined from the [National EV Insight and Support \(NEVIS\)](#) and DfT projections.
- Local taxi fleet data from 2023 was used as a baseline to determine proportions of diesel, hybrids and (Battery Electric Vehicles) BEV within fleet.
- Growth factors for 2029 have considered for all vehicle types except buses from NEVIS and DfT projections.

## Modelled measures and parameters

**Measures supporting Electric Vehicle (EV) uptake:** Public EV Charging Points, EV Charging Strategy, Low Emission Vehicle Infrastructure (LEVI) Funding, EV charging on NHS estate car parks.

Reductions in emissions have been calculated utilising forecast data from NEVIS on EV uptake for car and LGV fleet in Wyre Forest District and Worcestershire.

Calculations have also taken into consideration vehicle growth in these fleets as forecast for 2029 within NEVIS, and from available Department for Transport (DfT) data<sup>8</sup>. The model scenario has been run assuming a medium uptake of EV from NEVIS within each AQMA.

### **Bus fleet improvements.**

Data was provided by WCC Highways of Diamond bus fleet as of June 2024, as the predominant service provider within the Wyre Forest District, which was used to determine a baseline source contribution.

The pre-defined Bus Fleet Euro Code Composition within the EFT was amended to reflect the local Eurocode compositions using the 'Bespoke Euro Fleet' option and model scenario run to determine the baseline as of 2023 for the source apportionment assessment.

The pre-defined Bus Fleet Euro Code Composition within the EFT for 2029 forecast was amended to reflect the projected fleet update to Eurocode VI using the 'Bespoke Euro Fleet' option and model run to determine reduced emissions within each AQMA.

The EFT outcomes for each measure and scenario in the AQMA were compared with the source apportionment emissions to forecast reduced emissions for the purposes of the Stage 2 Impact Assessment.

### **Local bus service improvements**

A 25% increase in bus patronage on pre-pandemic levels has been determined as 0.9% uptake utilising available National Traffic Survey data (see section 5.1.8 for further information). This has been calculated to equate to a 0.57% reduction in car journeys in each AQMA (assuming the 0.9% uptake replaces journeys spread across a mix of modes of transport) has been assumed for modelling purposes.

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<sup>8</sup> National Road Traffic Projections, 2022

#### 4.2.5 Predicted Emissions Reduction

The forecast emissions reduction in NO<sub>x</sub> (g/km) in each AQMA for 2029-30 from all the quantifiable measures has been compared to the source apportionment outcomes and required emission reduction to achieve compliance.

**Table 4.6 Predicted and required emissions reduction of NO<sub>x</sub> compared with total emissions from source apportionment in each AQMA.**

Source Name	All Vehicles Emissions NO <sub>x</sub> (g/km) <sup>1</sup>	Required Reduction NO <sub>x</sub> (g/km) <sup>2</sup>	2025 - 30 Modelled Reduction NO <sub>x</sub> (g/km) <sup>3</sup>	Reduction Achieved
Welch Gate	2216.791008	305.0304426	964.3718709	Yes
Coventry Street	6079.204705	677.2234042	2565.117926	Yes

<sup>1</sup>All Vehicles Emission NO<sub>x</sub> (g/km) = Source Apportionment (2023) outputs

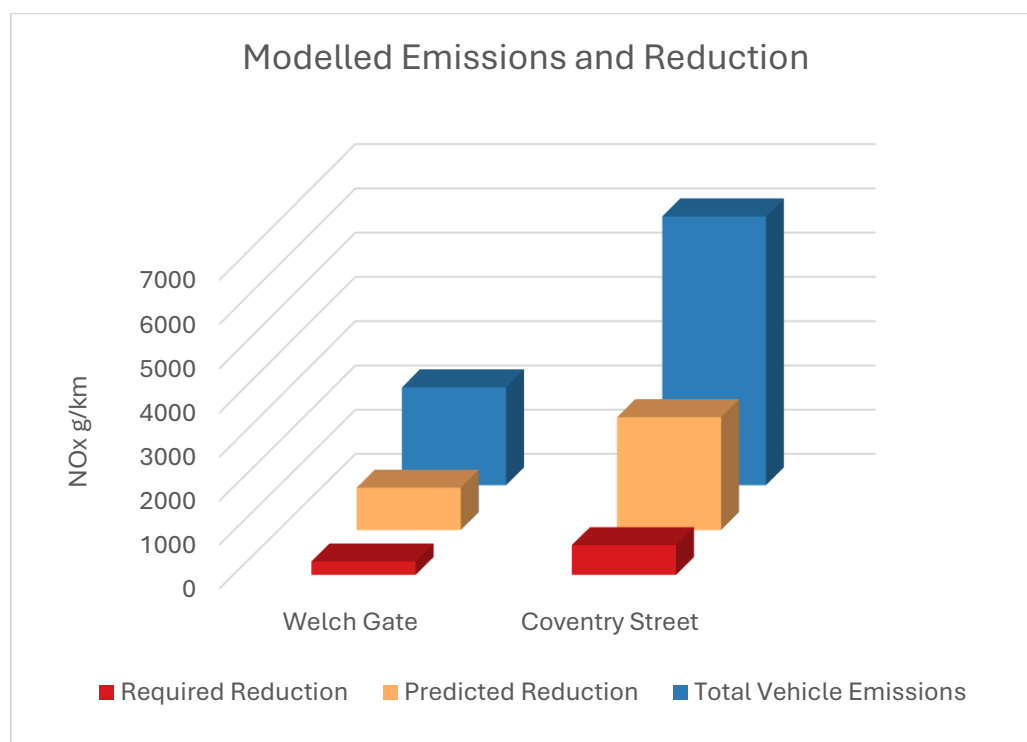
<sup>2</sup>Required Reduction NO<sub>x</sub> (g/km) calculated from Source Apportionment (2023) assessment

<sup>3</sup>Modelled Reduction NO<sub>x</sub> (g/km) calculated total of quantifiable measures (2029-30)

Further explanation on the modelling process, EFT outputs and modelled measures is provided in section 4.2.4 above. Inputs and outputs of each modelled scenario are shown in Appendix K: Modelled Measures in the accompanying Technical Appendices document.

Figure 4.3 below shows the predicted modelled emissions reduction achieved (middle column) compared with total emissions within each AQMA determined from the source apportionment study (back) and the required emissions reduction to achieve target compliance of 36µg/m<sup>3</sup> (-10% AQO) (front).

**Figure 4.3 Total emissions, predicted and required reduction of NOx emissions in each AQMA**



In accordance with advice from LAQM helpdesk and comments on Draft AQAP from Defra consideration has been given to the date at which compliance is expected to be achieved, both with and without the implementation of the AQAP measures.

The impact assessment indicates the proposed measures are sufficient to achieve compliance and the target of less than 10% below the current AQO for annual average NO<sub>2</sub> of 40µg/m<sup>3</sup> within the lifetime of this AQAP (2025-30).

Wyre Forest District Council aims that the implementation of the outlined measures will result in the relevant objective(s) being attained by:

- 2030 within Welch Gate, Bewdley AQMA
- 2030 within Horsefair/Coventry Street AQMA

It is challenging to predict if compliance with the AQO or target of less than 10% below will be achieved without the measures in this AQAP due to the following factors:

- Limited available long term trend data (only 2 full calendar years 2022-23) since traffic levels returned to near pre-pandemic levels;

- Variability in climate – weather has significant impact on concentrations of air pollutants in any given period and varies from season to season, year to year;
- Impact of closure of Bewdley Bridge for period of 2 years from November 2023 on emissions within Welch Gate, Bewdley;
- Unpredictable impact of EV uptake without supporting charging infrastructure and the measures contained within this AQAP;
- Unpredictable improvements to the commercial bus fleet without Bus Service Improvement Plan and Enhanced Partnership intervention;
- Unpredictable impacts of behavioural change aspects.

Table 2.1 demonstrates the variability in air pollution concentrations and unpredictable nature of air quality trends. The monitoring data shows nitrogen dioxide concentrations have marginally declined between 2019 – 2023 year on year in Coventry Steet, Kidderminster, when removing the pandemic impacted years of 2020-21 from the trend analysis. In contrast, Welch Gate Bewdley has risen in the corresponding years. It should be noted it is anticipated that the upswing in concentrations in the Welch Gate, Bewdley AQMA in the most recent calendar year is in part attributable to the closure of the Bewdley Bridge and increase in traffic through the AQMA. However, as the bridge only closed in mid-November 2023, it is considered likely that other factors have also contributed to the increase in concentrations such as a general increase in traffic post pandemic and variability in weather.

## 5 AQAP Measures

Table 5.1 shows the Wyre Forest 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

The following section provides more detail on the focus measures within this AQAP.

### 5.1 Focus Measures

#### 5.1.1 Electric Vehicles – general

As part of the Net Zero agenda to reduce carbon emissions government propose to introduce a ban on the sale of new petrol and diesel vehicles in 2035.

The transition of the vehicle fleet from conventional internal combustion engine (ICE) powered vehicles to electric vehicles is predicted to deliver significant reductions in NOx emissions, nationally and locally.

In addition to reduced CO<sub>2</sub> and NOx emissions, the transition to a battery electric vehicle (BEV) fleet will contribute towards reduction in PM emissions from tailpipes and noise generated from road transport.

Local EV projections available from NEVIS have been utilised to model the predicted emissions reduction from the local car and van (LGV) fleet over the next 5 years (2024 – 2029). The NEVIS data predicts the local car fleet will comprise between



15.70% to 24.52% BEV by 2029. BEVs will also comprise 18.25% to 27.72% of the local LGV vehicle parc<sup>9</sup>.

The results of modelling undertaken indicate the emissions reduction forecast from transition to BEV vehicle parc predictions will result in a 44.32% reduction in NOx emissions in Welch Gate, Bewdley AQMA and a 34.17% reduction in NOx emissions in Coventry Street, Kidderminster AQMA by 2030.

This transition to high proportions of BEV within local vehicle parc requires supporting EV charging infrastructure (EVCI) to meet the growing demand.

A 2022 survey by [Zap-Map](#) highlighted that whilst 82% of EV drivers (nationally) have access to charging at home, 93% of EV drivers use public charging networks, most commonly motorway service areas and charge-points at supermarkets for opportunity charging. Workplace, public car parks and business sources such as hotels are also opportunity locations for charging. As the access to and reliability of public EVCI grows, the 27% of households in Wyre Forest without a private driveway for the installation of a chargepoint will be more likely to invest in an EV.

Local authority has a role to play in ensuring adequate levels of EVCI are available to support the transition to EV through the provision of charging in public car parks, on street charging or local hubs for those without ability to charge at home and setting requirements of new residential and commercial development through planning policy.

Four shortlisted measures have been identified that will contribute towards greater provision of EVCI and the emissions reduction forecast in the AQMAs:

- Public EV Charging Points (Wyre Forest District Council)
- EV Charging Strategy (Worcestershire County Council)
- Local Electric Vehicle Infrastructure (LEVI) Capital Funding
- EV charging on NHS estate car parks

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<sup>9</sup> Parc is a term for all registered vehicles within a defined geographic region

### 5.1.2 Public EV Charging Points

Installing electric vehicle charging points in the district towns of Kidderminster, Bewdley, and Stourport is one of the Strategic Priorities outlined in the Council's [Corporate Plan](#) (2023-27).

To support the transition of local vehicle parc to BEV, Wyre Forest District Council has awarded a contract to a private firm, Flowbird, for the installation of 132 off street chargers at 16 council owned car parks across the district. This EV charge-point rollout will consist of 110 Fast (three phase) 11kW AC chargers and 22 Rapid DC 50kW chargers to be installed by February 2025. This will bring the total number of publicly available EV Chargepoints in the district up from 85 (as of July 2024) to 217 and will increase the number of public chargers per 100,000 Wyre Forest residents from 83 to 213.

- Emissions Reduction: 34 - 45% (part contribution)
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £1 million - £10 million
- Funding Sources: Majority privately funded by contractor and funding partners, WFDC £88k for the relocation of a high voltage substation

### 5.1.3 Worcestershire EV Charging Strategy

The [Local Electric Vehicle Infrastructure \(LEVI\)](#) Fund supports local transport authorities to plan and procure charging infrastructure (EVCI) solutions primarily for residents without dedicated off-street parking.

LEVI Capability funding has assisted the development of the [Worcestershire County Council's Electric Vehicle Charging \(EVCI\) Strategy](#) to support delivery of LEVI. At the time of writing (September 2024) the draft of the strategy is currently being consulted on with WCC due to adopt and publicise it later in the year. The strategy sets out the approach to the delivery of EVCI across the County over the next 5 years which will be delivered through the LEVI funding.

- Emissions Reduction: 34 - 45% (part contribution)

- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £50k - £100K
- Funding Sources: LEVI capability funding

#### 5.1.4 LEVI Capital Funding

Following the publication of the Worcestershire EVCI strategy, LEVI capital funding will enable installation of on street charging to assist with transition to EVs for the 27% of Wyre Forest District households without off-street parking<sup>10</sup>.

Capital funding of £3.5m has been allocated to Worcestershire County Council for the delivery of EVCI across the County.

The funding is subject to the successful submission of a three-stage business case and approval from the Office of Zero Emission Vehicles (OZEV).

- Emissions Reduction: 34 - 45% (part contribution)
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £1million - £10million
- Funding Sources: LEVI capital funding

#### 5.1.5 EV charging on NHS estate car parks

The Worcestershire Acute Hospitals NHS Trust have three sites in the county in Kidderminster, Redditch and Worcester.

The Trust's focus at the present is provision of adequate parking facilities at each site to cope with demand and installation of EV charging points and infrastructure to

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<sup>10</sup> Worcestershire County Council Electric Vehicle Charging Infrastructure (EVCI) Strategy *Draft* (2024)

comply with NHSE directives and local planning authorities' requirements when redeveloping parts of the estates.

In 2023 Yunux Traffic produced an 'Electric Vehicle Charging - Commercial Model Options' review on behalf of the trust. Following the review the trust have plans in progress to install up to 16 EV charging points in existing car parking spaces for public and staff use at Kidderminster Community Hospital. Additionally there are proposals to increase provision of adequate parking facilities at the site with 141 more spaces in the future of which up to 10% could comprise EV charging points.

- Emissions Reduction: 34% (part contribution)
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Horsefair/Coventry Street AQMA
- Cost: £1million - £10million
- Funding Sources: Worcestershire Acute Hospitals NHS Trust, Low Carbon Funds and Charitable funds

#### **5.1.6 Encouraging Awareness via Public Portal of Real Time Monitoring Data (Countywide Air Quality Strategy)**

In February 2023, WRS were successful in a bid to the Defra Air Quality Grant Scheme 2022/23 to establish an enhanced real-time air quality monitoring network across Worcestershire. The scope of the bid was to establish a real-time air quality monitoring network across the main areas of air quality concern in Worcestershire for purposes of providing enhanced monitoring data on a range of pollutants.

Additionally, the proposal included informing the public and vulnerable groups of the status of air pollution in real time to encourage behaviour change.

The scheme involves the installation of 'low-cost Air Quality Monitors' across the county which measure NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Three of the twenty-six monitors across the county were installed in the Wyre Forest District in January 2024 and are funded to operate for 3 years. The sensors, known as '[Zephyrs](#)' are provided, operated and serviced by [Earthsense](#) who also provide data access. These 3 sensors are in addition to the existing Horsefair, Kidderminster Zephyr monitor, which

was installed in 2022, increasing the network to 4 in total across the Wyre Forest District.

Earthsense and WRS have designed a publicly accessible portal to the real time monitoring data which launched in May 2024.

In addition to contributing towards this AQAP for Wyre Forest District Council, this work also forms part of the evolving Air Quality Strategy for Worcestershire. The vision for this strategy is to improve the health and wellbeing of the local population and provide air quality improvements across the county. The strategy will contribute towards compliance with national air quality standards and policy but extend beyond the specific focus of district AQAP's. The strategy will be a continuing area of work undertaken by collaboration between the Worcestershire district authorities, WRS and Public Health. At this time the strategy is at an early stage and will be developed further once priority work, such as this AQAP, have been completed in 2024-2025.

This measure aligns with other Behavioural Change encouraging focus measures, specifically those progressed as part of the developing Air Quality Strategy for Worcestershire, Travel Choices and Sustainable Modes of Travel to School .

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the measure has the potential to deliver a small, <1.5%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, improve residents' health through increased activity and encourage long term sustainable and healthy travel behaviours within early age groups.

- Emissions Reduction: <1.5%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £100k - £500k
- Funding Sources: Defra Air Quality Grant (90%) and 6 Worcestershire District Authorities match funding (10%)

### 5.1.7 Bus Fleet Improvements

Larger road vehicles, such as buses, contribute disproportionate amounts of NO<sub>x</sub> emissions compared to their numbers on local roads. Buses comprise 5.68% of vehicles in Welch Gate, Bewdley and 1.14% in Coventry Street, Kidderminster contributing 6.64% and 1.63% of vehicle source emissions respectively.

Worcestershire County Council will work with bus operators to increase proportion of EC VI (Eurocode six) standard engine vehicles within the local fleet through the [Bus Service Improvement Plan](#) (BSIP) and an Enhanced Partnership (EP) agreement which was concluded in November 2023.

As of June 2024, 79% of Diamond Bus fleet (largest fleet operator in Wyre Forest) are currently EC VI with EC V equipped with EGR (Exhaust gas recirculation) making up 15% and the remaining 6% consisting of EC IV buses.

At present there are currently no plans to convert the fleet serving Wyre Forest to electric. Application to future Zero Emission Bus Regional Areas (ZEBRA) funding rounds maybe considered in the future.

Therefore, it is likely improvements to local fleet will occur via cascading of EC VI buses from other parts of the Midlands.

A projection for the 2030 fleet of 100% EC VI has been assumed for modelling purposes based on the ambition of the Worcestershire County Council BSIP to achieve all EC VI across the County by 2025.

The result of modelling undertaken indicates the emissions reduction in NO<sub>x</sub> forecast of 4.72% in Welch Gate, Bewdley and 0.98% in Coventry Street, Kidderminster by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions generated from road transport.

- Emissions Reduction: <0.98% to 4.72%
- Sources impacted: Buses
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £1million - £10million
- Funding Sources: Not yet identified

### 5.1.8 Local Bus Service Improvements

Worcestershire County Council's [Bus Service Improvement Plan](#) (BSIP) sets out the Local Transport Authority's ambition to promote the use of buses across the County. The BSIP outlines WCC's aspirations to improve Worcestershire's bus transport network, address congestion hotspots, increase frequency and reliability of services and review fare structures.

One of the headline targets within the BSIP is to increase bus patronage in Worcestershire by 25% of pre-pandemic levels by 2030.

Utilising National Traffic Survey<sup>11</sup> for data on Modes of Transport across region and in urban centres 2018-19 indicates Bus travel equates for 3.5% of travel on average between those two scenarios. A 0.57% reduction in car journeys in each AQMA has been assumed for modelling purposes as a result of 25% increase in bus patronage.

The result of modelling undertaken indicate the emissions reduction NOx forecast of 0.28% in Welch Gate, Bewdley and 0.35% in Coventry Street, Kidderminster by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions generated from road transport and noise generated from road transport, reduce congestion and improve residents' health through increased activity.

- Emissions Reduction: <0.36%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMA's
- Cost: £1million - £10million
- Funding Sources: BSIP funding

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<sup>11</sup> Nts9903 - Average number of trips by main mode, region and rural-urban classification of residence (trips per person per year): England, 2002 onwards

### 5.1.9 Wyre forest Local Cycling and Walking Infrastructure Plan (LCWIP)

Government has set targets for half of all short urban journeys being walked, wheeled, or cycled by 2030 in their Cycling and Walking Investment Strategy (2017). To help to achieve this Worcestershire County Council are currently developing a [Local Cycling and Walking Infrastructure Plan \(LCWIP\)](#) for Wyre Forest District due for completion by March 2025.

The LCWIP, funded through Active Travel England, will set out cycling and walking improvement plans for the Wyre Forest District over a 10-year period and will form part of the Local Transport Plan (LTP5).

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the development stage of the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030 with the implementation stage predicted to deliver a small impact, <1.5%, as a minimum by completion of the programme.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, and improve residents' health through increased activity.

- Emissions Reduction: <0.2% (Development Stage), <1.5% (Delivery Stage)
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £50k - £100k (Development stage), >£10m (Delivery Stage)
- Funding Sources: WCC, Active Travel England

### 5.1.10 Air Quality Improvements from New Development

The [Wyre Forest District Local Plan \(2016 – 2036\)](#) sets out the council's long-term vision and strategic context for managing and accommodating growth within the district until 2036 in order to contribute to the achievement of sustainable development.



Local Plan Policy SP.16 – Health and Wellbeing states that ‘Development should help minimise negative health impacts and maximise opportunities to ensure that people in Wyre Forest District lead healthy, active lifestyles and experience a high quality of life by minimising and mitigating the impacts of negative air quality and reducing people's exposure to poor air quality.’

The following strategic developments outlined within the local plan are located in proximity to and are anticipated to impact on the Horsefair /Coventry Street, Kidderminster AQMA:

- Lea Castle Village comprising 1400 homes (600 of which granted permission 2019 and under construction, with application received for further 800)
- Kidderminster East Extension of 1450 homes (application received in 2024) – Phased development until 2036 with 25% occupation by 2030

Both developments will contribute towards significant highway improvements to the ring road and major road junctions in the highway network as well as improving cycle connectivity, requiring a mobility hub, installing solar panels and electric vehicle charging points, low emission boilers and building to the Future Homes Standards 2025. In addition, each development will have a primary school, local retail centre community hub and retail centre to reduce reliance on the private car and achieve a 20-minute walking neighbourhood.

Details of air quality improving measures secured by s106 agreements:

- Public Transport: Community Transport, Real Time Information upgrades, new bus service.
- Travel Planning
- Kidderminster Active Travel Corridors
- Strategic Road Improvements: A456, A451 and A450
- Local road improvements proximal to the development sites

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of the many varied schemes associated with the developments. It is considered the measure is likely to deliver a small impact, <1.5%, as a maximum within the timeframe of this AQAP.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, and improve residents' health through increased activity.

- Emissions Reduction: <1.5%
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Horsefair/Coventry Street AQMAs
- Cost: >£10million
- Funding Sources: s106

### **5.1.11 Local Community Engagement**

Engaging with communities to identify concerns and solutions can support organisations responsible for air quality control to improve environmental decision-making and widen understanding of air quality issues associated with public health.

Available guidance indicates a range of approaches have been used to engage communities in addressing air quality, increase health literacy and empowerment, and positive outcomes for individuals, communities and organisations can be achieved through collaborative working.

Wyre Forest District Council have identified a range of communities to approach and potentially work with including schools, church groups, nurseries, medical centres and environmental groups.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, and improve residents' health through increased activity and awareness.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs

- Cost: <£10k
- Funding Sources: Not yet identified

#### 5.1.12 Travel plans to NHS sites

Improving air quality is integral to the Worcestershire Acute Hospitals NHS Trust green development action plan for delivering the NHSE net Zero visions and objective.

In July 2023, a draft 'Worcestershire Travel Plan' was published in July 2023 for the trust by BWB (Transport and Infrastructure consultants).

The objective of this plan is to encourage sustainable journeys for staff: reducing car reliance and encouraging car sharing, using Public Transport, active travel uptake with a target of 10% reduction in (staff) car driver journeys.

This measure aligns with other Behavioural Change encouraging focus measures, specifically those progressed as part of the developing Air Quality Strategy for Worcestershire, Travel choices and Sustainable Modes of Travel to School .

Considering the benefits of this measure are predominately limited to the Kidderminster AQMA, staff levels and the number of potential daily journeys through Coventry Street impacted it is likely the measure will deliver a negligible impact, <0.2%, emissions reduction by 2029.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion and improve NHS staff health through raised awareness, behavioural change and increased activity.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Horsefair/Coventry Street AQMA
- Cost: £50k - £100k
- Funding Sources: Worcestershire Acute Hospitals NHS Trust, Low Carbon Funds and Charitable funds

### 5.1.13 North West Worcestershire Corridor Strategic Network Improvements

Worcestershire County Council (WCC) has developed a Strategic Outline Business Case (SOC) for the North West Worcestershire Corridor (NWWC). The NWWC scheme covers improvements on three roads, the A491, the A450 and the A456, to ease congestion and journey time reliability issues along the corridor and support future housing delivery.

This is the primary A road network which performs a strategic function in connecting the major settlements to the motorways and trunk roads.

The SOC details six schemes to be delivered between 2025 and 2030, of which the following have direct benefits on the Horsefair/Coventry Street AQMA:

- A456/ A451 Coventry Street Roundabout - Conversion of priority roundabout to partial signalised roundabout with signalised push button pedestrian facilities.
- A456/ A449 Land Oak Junction - Enhancement of the existing non-standard layout to include pedestrian/cycle facilities. Upgrade of signalling equipment, conversion to MOVA signal operation.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development. It is considered the measure has the potential to deliver a small, <1.5%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, and improve residents' health through increased activity.

- Emissions Reduction: <1.5%
- Sources impacted: Petrol and diesel cars, Taxis, LGVs, HGVs, Buses and Motorcycles
- AQMA benefitting: Horsefair/Coventry Street AQMA
- Cost: £50k - £100k (Development stage), >£10m (Delivery Stage)
- Funding Sources: WCC, Active Travel England

#### **5.1.14 Encouraging awareness and behavioural change interventions linked to focussed real time monitoring data (Countywide Air Quality Strategy)**

The aim of this measure is to utilise available real time monitoring in locations within proximity of poor air quality in Wyre Forest to inform actions to protect most vulnerable communities.

WRS in collaboration with WCC Public Health will work with identified local schools, communities and organisations to implement positive interventions and action through raising awareness of air pollution and encouraging behavioural change.

As a first step WCC Public Health, in collaboration with WRS, undertook an Air Quality Behaviour Change survey between February and May 2024 to establish baseline behavioural patterns and understanding of air quality. A summary of the key findings from the survey are provided in Appendix F: Air Quality Survey Summary.

In addition to contributing towards this AQAP for Wyre Forest District Council, this work also forms part of the evolving Air Quality Strategy for Worcestershire – refer to section 5.1.6 above for further information.

This measure aligns with other Behavioural Change encouraging focus measures, specifically those progressed as part of the developing Air Quality Strategy for Worcestershire, Travel Choices and Sustainable Modes of Travel to School .

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the measure has the potential to deliver a negligible, <0.2%, emissions reduction by 2030.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £10k - £50k
- Funding Sources: Not yet identified

### 5.1.15 Raising Awareness Events (Countywide Air Quality Strategy)

The aim of this measure is to promote behavioural change and raise awareness of air pollution and positive action that can be taken through a programme of annual action days. An Air Quality Public Health working group was established in 2023 to assist with formation of AQAP measures and the group's initial collaborative event to raise awareness was [Clean Air Day](#) in June 2023, followed by Clean Air Night in January 2024.

At this time of writing, the future focus, contributors, and responsibilities of the working group is under review. Following resolution with air quality partners it is anticipated a programme of annual events will be scheduled as part of work towards the evolving Air Quality Strategy for Worcestershire in 2025 – refer to section 5.1.6 above for further information. This measure aligns with other Behavioural Change encouraging focus measures, specifically those progressed as part of the developing Air Quality Strategy for Worcestershire, Travel Choices and Sustainable Modes of Travel to School .

It has not been possible to quantify impacts of this measure, at this time, due to the continuous application and the unpredictable outcomes of behaviour change actions. It is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion and improve residents' health through raised awareness, behavioural change and increased activity.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £10k - £50k
- Funding Sources: Not yet identified

### 5.1.16 Communications Plan (Countywide Air Quality Strategy)

The formation of a countywide (county and district authorities) strategy for communicating messages, details of events and advice is considered a key component of the evolving Air Quality Strategy for Worcestershire - refer to section 5.1.6 above for further information.

At this time this is at an early stage of development, though many of the other measures outlined within this AQAP will be developed and incorporated within the Communication Plan.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, and improve residents' health through raised awareness and behavioural change or increased activity.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £10k - £50k
- Funding Sources: Not yet identified

### 5.1.17 Travel choices

Worcestershire County Council propose to refresh measures to promote sustainable travel choices focussed on web and app-based journey planners to provide travel information and promote sustainable modes of transport (Public Transport/Active Travel modes).

Previous schemes have achieved notable changes in travel mode choice across the county between 2004 and 2008. Based on surveys with representative samples of

more than 4,000 people before and after travel choice schemes were introduced, there was a relative:

- Reduction of 7 per cent in car-as-driver trips per person per year
- Reduction of 4 per cent in car-as-passenger trips
- Increase of 11 per cent in walking trips
- Increase of 19 per cent in bicycle trips
- Increase of 20 per cent in bus trips
- Estimated saving of around 3,900 tonnes of CO<sub>2</sub> per year from personal car use

This measure aligns with other Behavioural Change encouraging focus measures, particularly those progressed as part of the developing Air Quality Strategy for Worcestershire.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and the unpredictable outcomes of behaviour change actions. It is considered the measure has the potential to deliver a small, <1.5%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion and improve residents' health through increased activity.

- Emissions Reduction: <1.5%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £500k - £1m
- Funding Sources: Not yet identified

#### **5.1.18 Depot Infrastructure**

Reducing the emissions from its own vehicle fleet and buildings is a priority for Wyre Forest District Council and to this end the council are currently working with an



external partner to develop a full business case and timescale for electrification of Green Street Depot and the council fleet vehicles based there.

Additionally, the council are exploring a joint fleet electrification with Wyre Forest Community Housing (WFCH), who own most of the district's social housing thus bringing the total number of vehicles that could theoretically be electrified through this project to over 200, costing approximately £34k.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development and limited data available at time of writing on WFCH fleet movements through the AQMAs.

Given the relatively small size of the council fleet and limited number of daily movements through each AQMA, it is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars, LGVs, HGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £50k - £100k
- Funding Sources: Wyre Forest District Council

### 5.1.19 Taxi Fleet Improvement

Wyre Forest District Council have introduced measures to incentivise transition to electric vehicles and reduce emissions from the local taxi fleet.

WFDC have put in place that no fossil fuel driven vehicles can enter the taxi and PHV fleet from 1<sup>st</sup> January 2027 within the [Hackney Carriage and Private Hire Licensing Policy](#). This policy will ensure a gradual turnover of the local taxi fleet from petrol and diesel vehicles and an all low emission vehicle fleet will be achieved by 31<sup>st</sup> December 2038 apart from those that are good quality vehicles providing they meet annual tests. The expectation therefore is that the fleet will be predominantly non-carbon fuel by 2039.

Taxis and private hire vehicles are predicted to contribute between 0.2% and 0.59% of total emissions in Welch Gate, Bewdley and Coventry Street, Kidderminster respectively. Therefore, the measure will deliver a small emissions reduction, <0.6%, at maximum by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport.

- Emissions Reduction: <0.6%
- Sources impacted: Taxis
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: >£10 million
- Funding Sources: Taxi Community

#### 5.1.20 Sustainable Modes of Travel to School

It has been identified more support and resource is required to help schools within Wyre Forest develop Travel Plans and put into action.

Wyre Forest District Council with air quality partner Worcestershire County Council will encourage and support schools to become [ModeSHIFT star](#) accredited through the introduction and implementation of travel plans, cycling and create long-term change in travel habits for school aged children and their parents.

This measure aligns with other Behavioural Change encouraging focus measures, particularly those progressed as part of the developing Air Quality Strategy for Worcestershire, outlined above.

Two schools are located within Coventry Street with 963 pupils in attendance as of August 2024. Utilising data from the National Traffic Survey<sup>12</sup> indicates that 33% of pupils travel to school by car or van which equates to 318 journeys twice a day within the Horsefair/Coventry Street AQMA on weekdays during school term time.

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<sup>12</sup> nts0613 National Traffic Survey - school modes of transport

This measure is at an early stage of development and the outcomes of behaviour change actions are unpredictable. However for purposes of modelling impact of this measure a 10% reduction in school travel by car/van in participating schools is considered feasible and it is anticipated the measure will deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion, improve residents' health through increased activity and encourage long term sustainable and healthy travel behaviours within early age groups.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars, LGVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £100k - £500k
- Funding Sources: Not yet identified

#### 5.1.21 Bus stop infrastructure – bus shelter provision

Worcestershire County Council propose to improve and upgrade bus shelters to promote bus use and increase modal shift from cars to public transport. This measure would include display screens to provide up to date information such as service routes. Potentially this measure would be delivered as part of the [Bus Service Improvement Plan](#) (BSIP) and Enhanced Partnership (EP).

It is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion and improve residents' health through increased activity such as walking to bus stops.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £500k - £1m

- Funding Sources: Not yet identified

### 5.1.22 Demand Response Travel

Demand responsive transport (DRT) offers an alternative transport option to fixed route public transport services and to private vehicle use. It helps people make essential local journeys within a defined area, and offers residents and visitors transport within a zoned area and to specific places of interest outside of the zone.

The service can also provide journeys to connecting transport services, such as other local buses or to local train stations.

Passengers can request transport through an app for a specific time or to arrive at their destination at a specific time and this will give a selection of boarding times available. Transport will collect the passenger from a designated pick-up point and will drop off at the required location. Unlike fixed route bus services, the service is flexible depending on the destinations and collection points.

The [Worcestershire on Demand \(WoD\)](#) initiative is currently operating within Bromsgrove and Malvern Hills Districts with plans to expand within those areas and into other districts including Wyre Forest District within the lifetime of this AQAP.

The initial outcomes of the pilot WoD was reported within the [Bus Service Improvement Plan](#) (BSIP) in July 2021: 600 journeys per week across Bromsgrove and Malvern, 6 days per week.

It has not been possible to quantify impacts of this measure, at this time, due to the early stage of development. However based upon above data it is considered the measure has the potential to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions and noise generated from road transport, reduce congestion and improve residents' health through increased activity.

- Emissions Reduction: <0.2%
- Sources impacted: Petrol and diesel cars
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £500k - £1million

- Funding Sources: Not yet identified

### 5.1.23 Wyre Forest Vehicle Fleet Upgrade - Refuse Collection Vehicles

Reducing the emissions from its own vehicle fleet is a priority for Wyre Forest District Council and to this end the council have a rolling programme of vehicle replacement.

The replacement of current Refuse Collection Vehicles (RCV) with newer EC VI (Eurocode 6) vehicles are planned within the lifetime of this AQAP. RCVs contribute to the emissions attributable to HGVs which make up 5.93% and 15.05% of local road source emissions in Welch Gate, Bewdley and Coventry Street, Kidderminster respectively.

Additionally, the council are also exploring the potential to transition to alternative fuel additives such as Hydrotreated Vegetable Oil (HVO) but there are no firm plans at this time.

Wyre Forest District Council have commissioned [Cenex](#) to undertake a full appraisal of future fuel technology options, provide recommendations together with a full revised fleet replacement strategy and to undertake an assessment of the Council's Green Street depot infrastructure to accommodate any adopted technologies, see 5.1.18.

Given the limited number of daily movements through each AQMA, 3 vehicle movements through Welch Gate, Bewdley and 7 through Coventry Street, Kidderminster, it is considered the measure is likely to deliver a negligible impact, <0.2%, emissions reduction by 2030.

Additionally, this measure will contribute towards a reduction in PM<sub>2.5</sub> and carbon emissions generated from road transport.

- Emissions Reduction: <0.2%
- Sources impacted: HDVs
- AQMA benefitting: Welch Gate and Horsefair/Coventry Street AQMAs
- Cost: £1million - £10million
- Funding Sources: Wyre Forest District Council

## 5.2 Maintaining Safe Air Quality

Wyre Forest DC will continue to monitor nitrogen dioxide levels across the district and review and report annually as required within LAQM regulations.

Additionally, a countywide Air Quality Strategy for improving air quality and public health, and reducing impacts of air pollution across Worcestershire will be developed.

The vision for the strategy is at an early stage at this time however potentially will:

- encompass actions and strategies to maintain lower concentrations of NO<sub>2</sub> across the county;
- include a strategy to reduce PM<sub>2.5</sub> from varied sources: wood burning, transport, industry and agriculture;
- consider measures to reduce impacts of other pollutants such as ozone and ammonia;
- include a communication strategy to raise public awareness of air pollution;
- consider impacts of climate change on air quality;
- consider nature recovery strategies and air pollution;

At this time it is anticipated the strategy will be developed in collaboration between the 6 Worcestershire District Councils, Worcestershire County Council and other relevant partners such as the NHS and academia.

Work will begin on the strategy in latter part of 2025 once other regulatory priorities (AQAPs, ASRs, AQMA revocations) across the county have been completed.

Table 5.1 Air Quality Action Plan Measures

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	EV Charging Strategy	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2025	2025	WCC, WFDC	LEVI capability funding	N	Fully Funded	£50k - £100k	Implementation	34 - 45%*	Publication of Strategy	public consultation summer 2024, adoption of final strategy late 2024/early 2025	
2	LEVI Capital Funding	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2025	2028	WCC, WFDC	£3.4m local EV Infrastructure Fund	N	Fully Funded (subject to business case process)	£1 million - £10 million	Planning	34 - 45%*	Number of EV chargers installed	Planning Phase	subject to 3- stage business case process
3	Public EV Charging Points	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	Late 2024	Early 2025	WCC, WFDC	Privately funded, WFDC	N	Funded	£1 million - £10 million	Implementation	34 - 45%*	Number of vehicles charging / number of new users	Installations to begin when private contractor have secured funding partner	Cost to Council £88k for the movement of a high voltage substation
4	EV charging on NHS estate car parks	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2025	2030	Worcestershire Acute Hospitals NHS Trust	Trust own/External such as Low carbon Funds and Charitable funds	N	To Be Confirmed	£1 million - £10 million	Planning	34%*	Number of EV chargers installed	Planning Phase	
5	Countywide AQ Strategy - Encouraging awareness via Public Portal of real time monitoring data	Public Information	Via the Internet	2024	2027	WRS, Earthsense, WCC, District Councils	Defra, Districts	Yes	Fully Funded	£100k - £500k	Completed	<1.5%	Number of website hits on public portal	Monitors deployed Jan 2024, Public Portal available summer 2024	

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
6	Bus fleet improvements (local bus services)	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2025	2026	<b>Bus Operators, WCC</b>	Not Yet Identified	N	To Be Confirmed	£1 million-£10million	Planning	1 - 5%	% of bus fleet Euro 6	Planning Phase	Funding availability, Operator Agreement
7	Local bus service improvements funded from Bus Service Improvement Plan (BSIP) and Enhanced Partnership (EP)	Transport Planning and Infrastructure	Bus route improvements	2026	2030	<b>WCC.</b> Bus operators	BSIP funding	N	To Be Confirmed	£1 million - £10 million	Planning	<0.4%	Bus patronage (passenger demand)	Planning Phase	
8	Wyre Forest Local Cycling and Walking Infrastructure Plan (Scheme Delivery)	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2025	2035	<b>WCC</b> inc. Public Health, WFDC, key stakeholders, Active Travel England	Active Travel England	N	To Be Confirmed	>£10million	Planning	<1.5%	Scheme delivery monitoring (e.g. cycle counts)	Planning Phase	Funding availability
9	Air Quality Improvements from New Development	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2021	2036	<b>WFDC,</b> Developers	s106 Funding	N	To Be Confirmed	>£10million	Planning	<1.5%	s106 agreements completed	2 Phased developments, first one partially delivered, remaining are in planning stages	Subject to planning applications being approved. Big impacts delivered in later development phases
10	Local Community Engagement	Public Information	Via other mechanisms	2024	Ongoing	<b>WFDC,</b> Community organisations	WFDC	N	To Be Confirmed	<£10k	Planning	<0.2%	Number of participating organisations and Activities delivered. Changed behaviour identified from future surveys	Planning Phase	
11	Wyre Forest Local Cycling and Walking Infrastructure Plan (Development)	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2024	2025	<b>WCC</b> inc. Public Health, WFDC, key stakeholders, Active Travel England	WCC, Active Travel England, developer contributions	N	Fully funded	£50k-£100k	Planning	<0.2%	LCWIP completed by March 2025	Planning Phase	



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
12	Travel plans to NHS sites	Promoting Travel Alternatives	Workplace Travel Planning	2025	2030	Worcestershire Acute Hospitals NHS Trust	Trust own development/External sources such as Low carbon Funds and Charitable funds. Also stake holders support.	N	To Be Confirmed	£50k - £100k	Planning	<0.2%	ModeSHIFT of staff work journeys	Planning Phase	
13	North West Worcs Corridor NWWC Strategic Network improvements	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2027	2029	WCC	Not yet identified	N	To Be Confirmed	>£10million	Planning	<1.5%	Improvement in Congestion data	Planning Phase - Proposal submitted to Midlands Connect for Major Road Network Funding.	Subject to Strategic Outline Business Case outcomes.
14	Countywide AQ Strategy - Communications Plan	Policy Guidance and Development Control	Other	2025	Ongoing	<b>WCC Public Health</b> , WRS	Not yet identified	N	To be confirmed	£10k-50k	Planning	<0.2%	Production of communication plan	Planning Phase	
15	Countywide AQ Strategy - Encouraging awareness and behavioural change interventions linked to focussed real time monitoring data	Public Information	Via other mechanisms	2024	2027	<b>WRS</b> , WCC, District Councils	Not Yet Identified	N	To Be Confirmed	£10k-50k	Planning	<0.2%	Number of responses to survey, hits on website, data captured. Changed behaviour identified from repeat survey in future	Baseline AQ Survey completed Feb - May 2024	
16	Countywide AQ Strategy - Raising awareness events	Public Information	Other	2023	Ongoing	<b>WCC Public Health</b> , WRS	Not yet identified	N	To be confirmed	£10k-50k	Implementation	<0.2%	Support minimum of 3 national events. Number of events attended. Number of people engaged	Clean Air Day 06/2023, Clean Air Night 01/2024 promotion undertaken.	

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
17	Travel Choices	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2025	2030	<b>WCC</b> inc. Public Health, WFDC, key stakeholders - schools, UoW	Not Yet Identified	N	To Be Confirmed	£50k-£100k	Planning	<1.5%	Number of walking, cycling, scooting and number of participating organisations and activities delivered	Planning Phase	Funding availability
18	Depot Infrastructure	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2025	2026	<b>WFDC</b>	Not Yet Identified	N	Not funded	£50k-£100k	Planning	<0.2%	Infrastructure provided	Subject to Business Case once grid capacity identified.	
19	Taxi Fleet Improvements	Promoting Low Emission Transport	Taxi Licensing conditions	2027	Ongoing	<b>WRS, WFDC</b>	Taxi community	N	Not funded	>£10million	Planning	<0.6%	Licenses issued	Policy introduced	
20	Travel to school	Promoting Travel Alternatives	School Travel Plans	2025	2030	WCC, WFDC, Schools & Colleges	Not Yet Identified	N	To Be Confirmed	£100k-£500k	Planning	<0.2%	Number of walking, cycling, scooting, car, and park & stride trips; Number of participating schools and of activities delivered	Planning Phase	Funding availability
21	Bus stop infrastructure – bus shelter provision	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	2025	2030	<b>WCC</b> , Bus operators	Not Yet Identified	N	To Be Confirmed	£500k-£1million	Planning	<0.2%	Bus patronage (passenger demand)	Planning Phase	Funding availability
22	Demand Response Travel (DRT)	Alternatives to private vehicle use	Other	2029	2029	<b>WCC</b> , Bus Operators, WFDC	Not Yet Identified	N	To Be Confirmed	£1 million-£10million	Planning	<0.2%	Bus patronage (passenger demand)	Planning Phase	Funding availability
23	Wyre Forest Vehicle Fleet Upgrade - Refuse Collection Vehicle	Vehicle Fleet Efficiency	Local Authority Fleets (grey fleets)	2025	2027	<b>WFDC</b>	WFDC	N	Funded	£1 million - £10 million	Implementation	<0.2%	Replacement of vehicles	Rolling replacement programme	

## 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)
Promoting Low Emission Transport	Clean Air Zone or Low Emission Zone	<p>Wyre Forest District Council are not one of the LA mandated or supported by government to implement a Clean Air Zone or undertake a feasibility study to do so supported by Clean Air Funding in 2017. Research indicates significant resource: research, data, studies, costs and time are required in setting up a CAZ. No such resource is currently available.</p> <p>Additionally determined focus measures are anticipated to deliver required reductions without requirement for consideration of a CAZ. This measure is therefore not being supported through this plan or by WCC.</p>
Promoting Low Emission Transport	Procuring alternative refuelling infrastructure other than EV recharging	Not supported by WCC. Not feasible to focus on numerous alternative fuel technology infrastructure

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
	such as Biofuels, Compressed Natural Gas (CNG) or Liquid Natural Gas (LNG), Hydrogen	within lifetime of this AQAP. Focus on EV which has greatest impetus from national policies, manufacturing industry and public support at this time. Potential for hydrogen in future but in infancy locally at this time. This measure is therefore not being supported through this plan or by WCC. Further development of alternative fuels are required prior to WCC supporting this measure.
Promoting Low Emission Transport	Emission Based Parking or Permit Charges	Unlikely to be a cost-effective measure considering research, data, studies, costs and time required to implement within lifetime of AQAP. Unlikely to be supported in respect of on street parking within vicinity of AQMAs. Most destination car parking in Kidderminster is in commercial domain.
Promoting Travel Alternatives	Promote use of inland waterways to move freight as a low emissions alternative	Insufficient information at this time on timeline for implementation, social or political support, or potential uptake. Considered uptake unlikely to

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
		provide significant impact on reducing NOx in AQMAs.
Traffic Management	Low Traffic Neighbourhoods (LTNs)	Designed to reduce traffic in residential streets, rather than Strategic Road Network. Not feasible within characteristic of AQMAs or primary bus routes and therefore not relevant to this AQAP. WCC will review options to lower speeds on roads with cycle routes as part of LCWIPs
Traffic Management	Speed reduction to 20mph zone	Not supported by WCC. Research indicates lack of real time studies available focussing on AQ impact. Additionally considered unfeasible on Strategic Road Network characteristic in the AQMAs and therefore not relevant to this AQAP. WCC will review options to lower speeds on roads with cycle routes as part of LCWIPs
Traffic Management	Road User Charging/Congestion Charging	Similar to CAZ (above) significant resource required to implement. Unlikely to be actioned within lifetime

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
		<p>of this AQAP, not supported and determined focus measures are anticipated to deliver compliance with current AQO without need for such a scheme. In addition this would not address the specific problems unless measures covered a wide area as vehicles could avoid the relevant streets by travelling on other routes. To be effective in Kidderminster it would need to cover the whole eastern side which would also affect vehicles that weren't travelling through the AQMA. Similar considerations apply in Bewdley. This measure is therefore not being supported through this plan or by WCC at this time.</p>
Traffic Management	Anti Idling Enforcement (Fixed Penalty Notices issue for stationary idling when parked under The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002	Insufficient data on impact of idling in AQMAs and no clear evidence on AQ benefits. Additionally, unlikely support for measure and significant cost to operate, maximum FPN £20 only. Anti idling outside schools, or other environments, campaign may be

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
		considered separately as part of raising awareness and encouraging behavioural change actions.
Traffic Management	Vehicle priority and High Occupancy Vehicle (HOV) lanes	Not considered feasible or supported due to limited road space in AQMAs. This measure is therefore not being supported through this plan or by WCC at this time.
Traffic Management	Testing Vehicle Emissions and issue of FPNs for non-compliance	Not supported at this time or likely to be delivered within lifetime of this AQAP.
Traffic Management	Workplace Parking Levy (WPL) - a charge LA can impose on employers and education organisations based on the number of parking spaces provided	A WPL could raise funding for public transport improvements, such as those identified in this plan. However to be effective a WPL would have to apply to the entire town centre areas and surrounding parts as it would lose impact if the main employers in a town were not charged when at least some of their employees will travel through the AQMAs. It would thus be a

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
		blunt tool and would have to catch all employer-provided parking in the area of the town centres, not solely parking for employees who travel through the AQMAs. It is not being considered for that reason.
Transport Planning and Infrastructure	Removing some bus stops to reduce dwell times and journey times	Concern this would discourage public transport users and is counter intuitive to encouraging behavioural change aspects of this plan and other local strategies. This measure is therefore not being supported through this plan or by WCC at this time.
Vehicle Fleet Efficiency	Vehicle Retrofitting programmes – fitting devices to reduce emissions such as Diesel Particulate Filters (DPF) to buses	Evidence that retrofitting programmes do not deliver required benefits over time. Costly and more efficient in long term to replace vehicle nearing end of life.



## Appendix C: Qualitative Assessment of Measures (Shortlisting)

**Table C.1 Stage 1 Qualitative Assessment of Measures**

RAG	Timeline for implementation	Support for measure	Practical Application	Deliverability	Anticipated Air Pollutant reduction	Data to quantify impact	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in the future
Green	Within 5 years	Likely Social and political support	Feasible	Yes	Significant	Available	Yes/No (Green/Red)	Potentially Within lifetime of AQAP
Amber	Potentially within 5 years	Potential social and/or political support	Potentially feasible	Potentially	Low to Medium impact or insufficient info to make a determination	Not available at time of draft plan, anticipated within 5 years		Post lifetime of this AQAP, consideration for
Red	Greater than 5 years	Unlikely social and political support	Not feasible	No	Negligible or Negative	Not available or forthcoming in next 5 years		Unlikely to be progressed in the future

Stage 1 – a RAG qualitative stage using officer experience and professional opinion to filter out measures (specific to that AQMA(s)) for progressing to quantified Cost Benefit Analysis Stage 2 or including as a non-quantified focus measure. Filtering process considers timeline for deliverability, political and social support and practical application which combined determine deliverability within this AQAP and consideration as a focus measure. The first three categories are weighted in that if a measure has a red classification, it is not progressed to Stage 2 Impact Assessment at this time. The anticipated pollutant reduction and availability of data is then considered to determine if progress to quantification of the measure is appropriate. Measures are sorted according to deliverability and anticipated NO<sub>2</sub> reduction and shown in Appendix D in the groups outlined in section 4.2.3 Approach to shortlisting of measures and assessment of impact.

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Key to categories in Stage 1 qualification of benefit of proposed and potential measures

**Timeline for implementation** – of measure such that is contributing to reduction in air pollution with consideration for lifetime of this AQAP.

**Support for Measure** – Political or social support for delivering action.

**Practical Application** - can the action be practically implemented within the AQMA(s).

**Deliverability** – summary of above 3 categories to determine feasibility for delivering within lifetime of this AQAP

**Anticipated Air Pollutant Reduction** – in the context of this AQAP this relates specifically to reduction in concentration of nitrogen dioxide within current AQMAs. Measures classified Green are anticipated to deliver a significant measurable reduction in pollutant concentration, red classified measures are anticipated to not deliver any measurable impact or potentially even a detrimental impact within the AQMA. Amber classification is somewhere in between two extremes and includes measures where there is insufficient information at time of AQAP to make a firm determination.

**Data to quantify impact** – Availability of data to enable quantification of amount of pollutant reduction to assist in Stage 2 analysis of impact.

**Focus Measure** – Top quantifiable and non- quantifiable measures that Wyre Forest District Council and Air Quality Partners have determined will form focus of delivering within AQAP.

**Progress to Stage 2** – Progress to second stage of analysis of measures for formal quantification of impacts on pollutant concentration and cost of measure.

**Potential progress in future** – additional information on actions with potential for further progression as part of future works, policies or strategies for consideration within future updates to the AQAP. As the AQAP is a live document, the focussed actions will be updated with any additional measures with significant and cost benefit analysis during the lifetime of the plan.

## Appendix D: Outcomes of Stage 1 Shortlisting Process

**Table D.1 Outcomes of Shortlisting**

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>EV Charging Strategy</b>	EV strategy will be developed in 2024	Within 5 years	Supported	Feasible	Yes	Significant	Available	Yes	N/A	Focus Measure
<b>Public EV Charging Points</b>	132 EV charging points to be installed across 22 WF car parks by Feb 2025 to support transition of local vehicle parc to BEV	Within 5 years	Supported	Feasible	Yes	Significant	Yes	Yes	N/A	Focus Measure
<b>Bus fleet improvements (local bus services)</b>	Work with bus operators to aid their procurement of a Euro 6 or above local bus fleet. Provide cleaner bus local bus fleet.	Within 5 Years	Likely support	Feasible	Yes	Significant	Yes	Yes	N/A	Focus Measure

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Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Countywide AQ Strategy - Encouraging awareness and behavioural change linked to use of real time monitoring data</b>	Publicly available real time monitoring data from 26 low-cost sensors (Zephyrs) installed around the County, monitoring range of pollutants and sources. To encourage public awareness and behavioural change.	Within 5 Years	Likely support	Feasible	Yes	Insufficient info at this time	Not available	Yes	N/A	Focus Measure
<b>Travel to School</b>	Encourage and support schools to become ModeSHIFT star accredited through the introduction and implementation of travel plans. Support schools in implementing cycling and walking buses. Create long-term change in travel habits for school aged children and their parents.	Within 5 years	Supported	Feasible	Yes	Potential Measurable Benefit	Potentially within lifetime of AQAP	Yes	N/A	Focus Measure
<b>Travel Choices</b>	To refresh 'soft' measures to promote sustainable travel choice focussed on web and app-based journey planners - to provide travel information and promote sustainable modes (Public Transport/Active Travel)	Within 5 years	Likely support	Feasible	Yes	Insufficient info at this time	Potentially within lifetime of AQAP	Yes	N/A	Focus Measure

## Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Depot infrastructure</b>	Electrify Greet Street Depot	Within 5 years	Likely support	Feasible	Yes	Insufficient info at this time	Potentially in lifetime of AQAP	Yes	N/A	Focus Measure
<b>EV charging on NHS estate car parks</b>	Increase number of electric car parking sites across sites. specifically at Kidderminster	Within 5 years	Likely support	Feasible	Yes	Negligible	Potentially within lifetime of AQAP	Yes	N/A	Focus Measure
<b>Taxi Fleet Improvements</b>	New taxi licences granted for low emission fuels only, no wholly or partly fossil fuelled will be permitted from Jan 2027	Within 5 years	Supported	Feasible	Yes	Negligible	For local fleet only	Yes	N/A	Focus Measure
<b>Countywide AQ Strategy - Encouraging awareness and behavioural change interventions linked to focussed real time monitoring data</b>	Use of real time monitoring data in locations near schools and/or areas of deprivation to inform actions and work with local schools/ communities/ organisations to implement interventions through awareness and behaviour change.	Within 5 Years	Likely support	Feasible	Yes	Negligible	Potentially in lifetime of AQAP	Yes	N/A	Focus Measure

Wyre Forest District Council Air Quality Action Plan – 2025 - 2030

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Countywide AQ Strategy - Raising awareness events</b>	Promoting behavioural change and awareness through programme of annual action days such as Clean Air Day, Clean Air Night, International Clean Air for Blue Skies Day	ongoing in lifetime of AQAP	Likely support	Feasible	Yes	Negligible	Not available	Yes	N/A	Focus Measure
<b>Countywide AQ Strategy - Communications Plan</b>	Countywide (County and partners authorities) joined up communication for events/messaging/website advice	Within 5 Years	Likely support	Feasible	Yes	Negligible	Not available	Yes	N/A	Focus Measure
<b>WFDC Vehicle Fleet Upgrade - Refuse Collection Vehicle and other Heavy and Light Commercial Vehicle Upgrades</b>	Fleet upgrades (Euro Code 6)	Within 5 years	Supported	Feasible	Yes	Negligible	Available	Yes	N/A	Focus Measure
<b>Bus stop infrastructure – bus shelter provision</b>	Improvements and upgrades to bus shelters that would include display screens to provide update info on routes etc.to promote modal shift to public transport. Potentially as	Within 5 years	Likely support	Feasible	Yes	Negligible	Potentially in lifetime of AQAP	Yes	N/A	Focus Measure

Wyre Forest District Council Air Quality Action Plan – 2025 - 2030

# Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
	part of Bus Service Improvement Plan / Enhanced Partnership.									
<b>Travel plans to NHS sites</b>	To encourage alternative forms of transport to NHS sites for staff	Within 5 years	Likely support	Feasible	Yes	Negligible	Not available	Yes	N/A	Focus Measure
<b>Local Community Engagement</b>	Community Engagement -including local schools, church groups, nurseries, medical centres and environmental groups	Within 5 years	Likely support	Feasible	Yes	Negligible	Not available	Yes	N/A	Focus Measure
<b>LEVI Capital Funding</b>	Implementation of EV charging strategy	Potentially within 5 years but Up to 10 years	Supported	Feasible	Potentially	Significant	Yes	Yes	N/A	Focus Measure

# Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>North West Worcs Corridor NWWC Strategic Network improvements</b>	Proposed highway and sustainable transport improvements in Kidderminster (A456/A451 Coventry Street roundabout and A456/A449 Land Oak junction)	Likely greater than 5 years	Supported	Feasible	Potentially	Significant	Potentially Available	Yes	N/A	Focus Measure
<b>Wyre Forest Local Cycling and Walking Infrastructure Plan</b>	Strategy setting out the provision of active travel infrastructure, priority routes and wider network over 10 year period. LCWIPs to form part of Local Transport Plans. Sustrans have been commissioned by County Council to undertake Wyre Forest LCWIP during 2023-2025	Potentially within 5 years but Up to 10 years	Likely support	Feasible	Potentially	Insufficient info at this time	Potentially within lifetime of AQAP	Yes	N/A	Focus Measure
<b>Demand Response Travel (DRT)</b>	Potential expansion of existing DRT (Worcestershire On Demand) to other areas.	Potentially within 5 years but up to 10 years	Likely support	Feasible	Potentially	Insufficient info at this time	Potentially Available	Yes	N/A	Focus Measure



## Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Local bus service improvements funded from Bus Service Improvement Plan (BSIP) and Enhanced Partnership (EP)</b>	DfT has provided Worcestershire with indicative LTA BSIP funding for 2024/25 to enhance local bus services including the expansion of DRT services	Potentially within 5 years but up to 10 years	Likely support	Feasible	Potentially	Insufficient info at this time	Potentially Available	Yes	N/A	Focus Measure
<b>Air Quality Improvements from New Development</b>	s106 Agreements identified for large developments - Kidderminster East Extension & Lea Castle	Potentially some impact within 5 years but Up to 12 years	Likely support	Feasible	Potentially	Negligible	Not available	Yes	N/A	Focus Measure
<b>Public Health vision for Worcestershire AQ Strategy</b>	Aim and Vision as part of the Countywide Strategy for improving air quality and reducing impacts on health	Within 5 Years	Likely support	Feasible	Yes	Negligible	Not available	No	To be developed further as part of countywide AQ Strategy	Potential Future option
<b>Active travel – clean air route finder</b>	Development of a walking / cycling tool such as Clean Air Route Finder (cleanairroutes.london)	Insufficient info at this time to determine	Likely support	Feasible	Potentially	Insufficient info at this time to determine	Not available	No	Insufficient info at this time to determine	Potential Future option

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Accelerate transition to EVs - businesses</b>	Plan and install an ultra-rapid charging hub with no height barrier, to encourage the use of EVs by delivery and business vehicles, and taxis	Insufficient info at this time to determine	Insufficient info at this time to determine	Insufficient info at this time to determine	Insufficient info at this time to determine	Potential Measurable Benefit	Potentially available	No	Insufficient info at this time to determine	Potential Future option
<b>Accelerate transition to EVs - businesses</b>	Charging facilities aimed at larger vehicles such as lorries and coaches, to encourage their use locally	Insufficient info at this time to determine	Insufficient info at this time to determine	Insufficient info at this time to determine	Insufficient info at this time to determine	Potential Measurable Benefit	Potentially available	No	Insufficient info at this time to determine	Potential Future option
<b>Accelerate transition to EVs – salary sacrifice</b>	Encourage local businesses to introduce a salary sacrifice scheme for EVs	Insufficient info at this time to determine	Potential social and/or political support	Insufficient info at this time to determine	Insufficient info at this time to determine	Insufficient info at this time to determine	Not available	No	Insufficient info at this time to determine	Potential Future option
<b>Countywide AQ Strategy - Link to workplace health schemes</b>	Communication: Health based campaigns - Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the	Within 5 years	Likely support	Potentially Feasible	Potentially	Negligible	Not available	No	To be developed further as part of countywide AQ Strategy	Potential Future option

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
	onset of heart disease and cancer.									
<b>Countywide AQ Strategy -Anti idling -schools campaign</b>	Anti-idling initiatives in educational settings - for awareness-raising, campaign work and signage in the vicinity of schools can be an effective mechanism for reducing idling emissions from vehicles during school drop-offs and pick-ups.	Within 5 years	Potential social and/or political support	Potentially Feasible	Potentially	Negligible	Not available	No	To be developed further as part of countywide AQ Strategy	Potential Future option
<b>Driver training and ECO driving aids</b>	ECO driving/driver skills development (for LA fleets) - Eco-driver training teaches fleet operatives to adopt a safer and more economic approach to driving. It can help to reduce fuel costs for the employer (estimated at up to 6% in the long term for fleets by the Energy Saving Trust) and reduces emissions of local air pollutants.	Insufficient info at this time to determine	Potential social and/or political support	Potentially Feasible	Insufficient info at this time to determine	Negligible	Potentially Available	No	Insufficient info at this time to determine	Potential Future option

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Freight Partnerships for town centre deliveries</b>	Freight Quality Partnerships - Freight Quality Partnerships (FQPs) are groups and/or forums between the freight industry, local authorities, local businesses, the local community, environmental groups and others who may have an interest in freight.	Greater Than 5 Years	Not supported	Potentially Feasible	No	Potentially Significant	Not available	No	Likely as part of future Freight Strategy	Potential Future option
<b>LA fleet improvements</b>	LA fleet including gritters and minibuses, move to Euro 6 engines in line with the targets set out in the Net Zero Plan	Greater Than 5 Years	Likely support	Feasible	No	Potential Measurable Benefit from school buses	Potentially Available	No	Likely beyond lifetime of AQAP	Potential Future option
<b>Freight Strategy</b>	Freight Strategy to form part of refresh of LTP - review HGV routing	Likely beyond 5 years	Potential social and/or political support	Potentially Feasible	No	Insufficient info at this time	Likely not available until end of this AQAP	No	Will form part of LTP5	Potential Future option

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Mobility hubs</b>	Mobility hubs bring together shared transport with public transport and active travel in spaces designed to improve the public realm for all.	Likely beyond 5 years	Potential social and/or political support	Potentially Feasible	No	Insufficient info at this time	Likely not available until end of this AQAP	No	Will be considered as part of LTP5	Potential Future option
<b>Emission control equipment for small and medium sized stationary combustion sources / replacement</b>	NRMM - Non-Road Mobile Machinery (NRMM) means any mobile machine, transportable equipment or vehicle with or without bodywork or wheels which isn't intended for carrying passengers or goods on the road and which incorporates a combustion engine.	Likely beyond 5 years	Not supported	Feasible	No	Insufficient info at this time	Potentially Available	No	Likely beyond lifetime of AQAP	Potential Future option
<b>Fleet efficiency and recognition schemes (FORS)</b>	Fleet Recognition Schemes Fleet Recognition Schemes are voluntary accreditation schemes which measure fleet performance and aim to drive up standards across areas such as fuel efficiency, vehicle emissions and safety.	Likely beyond 5 years	Not supported	Potentially Feasible	No	Insufficient info at this time	Potentially Available	No	Likely beyond lifetime of AQAP	Potential Future option

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>LA Fleet Upgrade - Refuse Collection Vehicle and other Heavy and Light Commercial Vehicle Upgrades</b>	Convert fleet to Hydrotreated Vehicle Oil (HVO) fuel source or other fuel alternative	Potentially within 5 years	Not supported	Feasible	No	Negligible	Potentially Available	No	Unlikely	Potential Future option
<b>LA Fleet Upgrade - Refuse Collection Vehicle and other Heavy and Light Commercial Vehicle Upgrades</b>	Replace remaining HCV and all LCV fleet with BEV in future	Likely beyond 5 years	Potential social and/or political support	Potentially Feasible	No	Negligible	Potentially Available	No	Likely beyond lifetime of AQAP	Potential Future option
<b>Emissions charging/Clean Air Zones /Low Emission Zones (LEZ)</b>	If your vehicle exceeds emission standards, you may have to pay a charge if you drive in a clean air zone	Greater Than 5 Years	Not supported	Potentially Feasible	No	Significant	Not available	No	Unlikely	Not being pursued

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Speed Reduction</b>	Speed reduction to 20 mph zones. May be considered as part of LCWIP development and LTP refresh.	Potentially within 5 years but up to 10 years	Not supported	Not Feasible	No	Insufficient info at this time	Not Available	No	Likely beyond lifetime of AQAP	Not being pursued
<b>HGV delivery access management - town centre</b>	Routing/delivery planning - Efficient routing and delivery planning can help to reduce the number of journeys associated with deliveries, working with freight companies and other stakeholders.	Likely beyond 5 years	Not supported	Potentially Feasible	No	Insufficient info at this time	Insufficient info at this time to determine	No	Unlikely	Not being pursued
<b>Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles other than EV charging</b>	Fuel Additives - chemical treatments for engines that reduce exhaust emissions. Biofuels - Biodiesel is known to reduce emissions of particulate matter and hydrocarbons, but due to having a higher oxygen content it can result in higher NO <sub>x</sub> emissions. Gas refuelling - Compressed Natural Gas (CNG) or Liquid Natural Gas (LNG) are	Greater than 5 years or N/A	Not supported	Not feasible to focus on numerous options	No	Potential Measurable Benefit	Not available	No	Likely beyond lifetime of AQAP	Not being pursued

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
	widely reported to significantly reduce CO <sub>2</sub> , PM and NO <sub>x</sub> emissions. Hydrogen vehicles- Hydrogen vehicles use hydrogen as a fuel for motive power.									
<b>Road User Charging (RUC)/ Congestion charging</b>	Congestion charging - Congestion charges relate to a charge being made for a vehicle to drive within a certain area or on a certain road with the primary reason for the charge being to reduce congestion i.e. implemented specifically to create a disincentive to travel by private transport.	Greater Than 5 Years	Not supported	Potentially Feasible	No	Potential Measurable Benefit/ Insufficient info at this time	Not available	No	Unlikely	Not being pursued
<b>Anti-idling enforcement</b>	Leaving engines running when parked (stationary idling) causes unnecessary emissions, wastes fuel and adds to noise levels. The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 and the Road Traffic (Vehicle Emissions)(Fixed Penalty)(Scotland)	Greater Than 5 Years	Not supported	Potentially Feasible	No	Potential Measurable Benefit/ Insufficient info at this time	Not available	No	Unlikely	Not being pursued



Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
	Regulations 2003 give discretionary powers to authorised persons acting on behalf of the local authority to issue Fixed Penalty Notices (FPNs) to drivers who allow their vehicle engines to run unnecessarily whilst the vehicle is stationary on the public highway.									
<b>Workplace Parking Levy, Parking Enforcement on highway</b>	Workplace Parking Levy (WPL) - A Workplace Parking Levy (WPL) is a charge local authorities can make to employers and education organisations in their areas based on the number of parking spaces they provide that are regularly used by employees and students	Greater Than 5 Years	Not supported	Not Feasible	No	Insufficient info at this time	Not available	No	Unlikely	Not being pursued
<b>Vehicle Retrofitting programmes</b>	Retrofits/upgrades - Retrofitting a full Diesel Particulate Filter (DPF) can reduce particulate emissions by 85-99%. A partial DPF, can reduce particulate emissions by 30-50%.	Greater Than 5 Years	Not supported	Not Feasible	No	Insufficient info at this time	Insufficient info at this time	No	Unlikely	Not being pursued

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
<b>Low Traffic Neighbourhoods (LTNs)</b>	A Low Traffic Neighbourhood – is a scheme introduced by the Government to try and reduce traffic in residential areas through a series of different measures. The aim is to lower the number of vehicles on the roads, increase the number of people walking or cycling, and reduce crime. Local residents and businesses can still use cars within LTNs, as well as receive visitors and deliveries, but non local traffic cannot drive through the area.	Greater Than 5 Years	Not supported	Not Feasible	No	Negligible	Not Available	No	Unlikely	Not being pursued
<b>UTC, Congestion management, traffic reduction</b>	Vehicle priority and High Occupancy Vehicle (HOV) lanes - Reprioritising road space involves shifting road space away from one type of user to facilitate uptake by a different type of user. In the UK, vehicle priority schemes are usually aimed at providing more space for buses, taxis, bicycles	Greater Than 5 Years	Not supported	Not Feasible	No	Negligible	Insufficient info at this time	No	Unlikely	Not being pursued

Wyre Forest District Council

Measure	Further detail	Timeline for implementation	Strategic support	Practical application	Deliverability	Anticipated NO <sub>2</sub> reduction in AQMA	Data to quantify	Progress to Stage 2 Impact Assessment	Potential to progress to Stage 2 in future	Outcome
	and pedestrians. Urban Traffic Management Control (UTMC) systems allow different components within an area-wide traffic management systems to communicate and share information with each other.									
<b>Testing Vehicle Emissions</b>	If a local authority has designated an Air Quality Management Area., then the council can test vehicles at the roadside and issue fixed penalties to drivers whose vehicles fail.	Greater Than 5 Years	Not supported	Potentially Feasible	No	Negligible	Insufficient info at this time	No	Unlikely	Not being pursued
<b>Bus stop rationalisation</b>	Removing some bus stops to reduce dwell times and journey times	Greater Than 5 Years	Not supported	Not Feasible	No	Negligible	Not available	No	Unlikely	Not being pursued

## Appendix E: Outcomes of Stage 2 Impact Assessment

**Table E.1 Outcomes of Impact Assessment**

Measure	Overall Cost	Cost Score	Funded	Cost to LA	Cost Score	Cost Score avg	Impact	Impact Score	Overall Score	Ranking
EV Charging Strategy	£50k - £100k	5	Y	£0	8	6.5	34 - 45%*	5	32.5	1
LEVI Deliverability Funding	£1million-£10million	2	Y	£0	8	5	34 - 45%*	5	25	1
EV charging on NHS estate car parks	£1 million-£10million	2	N	£0	8	5	34%*	5	25	1
Public EV Charging Points	£1 million-£10million	2	Y	£50k - £100k	5	3.5	34 - 45%*	5	17.5	1
Countywide AQ Strategy - Behavioural Change Officer Post	£100k - £500k	4	Y	£0	8	6	<1.5%	2	12	2
Countywide AQ Strategy - Encouraging awareness via Public Portal of real time monitoring data	£100k - £500k	4	Y	<£10k	7	5.5	<1.5%	2	11	3
Bus fleet improvements (local bus services) - Bewdley	£1 million-£10million	2	N	£50k - £100k	5	3.5	4.72%	3	10.5	4

## Wyre Forest District Council

Measure	Overall Cost	Cost Score	Funded	Cost to LA	Cost Score	Cost Score avg	Impact	Impact Score	Overall Score	Ranking
Local bus service improvements funded from Bus Service Improvement Plan (BSIP) and Enhanced Partnership (EP)	£1 million-£10million	2	Y	£0	8	5	<0.4%	2	10	5
Wyre Forest Local Cycling and Walking Infrastructure Plan (Scheme Delivery)	>£10 million	1	Y	£0	8	4.5	<1.5%	2	9	6
Air Quality Improvements from New Development	>£10 million	1	Y	£0	8	4.5	<1.5%	2	9	6
Bus fleet improvements (local bus services) Coventry St	£1 million-£10million	2	N	£50k - £100k	5	3.5	0.98%	2	7	7
Local Community Engagement	<£10k	7	N	<£10k	7	7	< 0.2%	1	7	7
Wyre Forest Local Cycling and Walking Infrastructure Plan (Development)	£50k-£100k	5	Y	£0	8	6.5	< 0.2%	1	6.5	8
Travel plans to NHS sites	£50k - £100k	5	N	£0	8	6.5	< 0.2%	1	6.5	8

# Wyre Forest District Council

Measure	Overall Cost	Cost Score	Funded	Cost to LA	Cost Score	Cost Score avg	Impact	Impact Score	Overall Score	Ranking
North-West Worcs Corridor NWWC Strategic Network improvements	>£10 million	1	N	£50k - £100k	5	3	<1.5%	2	6	9
Countywide AQ Strategy - Communications Plan	£10k-50k	6	N	£10k-50k	6	6	< 0.2%	1	6	9
Countywide AQ Strategy - Encouraging awareness and behavioural change interventions linked to focussed real time monitoring data	£10k-50k	6	N	£10k-50k	6	6	< 0.2%	1	6	9
Countywide AQ Strategy - Raising awareness events	£10k-50k	6	N	£10k-50k	6	6	< 0.2%	1	6	9
Depot Infrastructure	£50k-£100k	5	N	£50k-£100k	5	5	< 0.2%	1	5	10
Travel Choices	£50k-£100k	5	N	£50k-£100k	5	5	< 0.2%	1	5	10
Taxi Fleet Improvement	>£10 million	1	N	£0	8	4.5	< 0.2%	1	4.5	11

Wyre Forest District Council

Measure	Overall Cost	Cost Score	Funded	Cost to LA	Cost Score	Cost Score avg	Impact	Impact Score	Overall Score	Ranking
Travel to school	£100k-£500k	4	N	£100k-£500k	4	4	< 0.2%	1	4	12
Bus stop infrastructure – bus shelter provision	£500k-£1million	3	N	£500k-£1million	3	3	< 0.2%	1	3	13
Demand Response Travel (DRT)	£1 million-£10million	2	N	£1 million-£10million	2	2	< 0.2%	1	2	14
Wyre Forest Vehicle Fleet Upgrade - Refuse Collection Vehicle	£1 million-£10million	2	Y	£1 million-£10million	2	2	< 0.2%	1	2	14

## Appendix F: Air Quality Survey Summary

The survey, conducted over three months (February to May 2024), gathered responses from 1326 participants, primarily adults aged 31 to 60, (50% of the respondents). Key findings include:

**Health Impact Awareness:** 35-43% of respondents expressed concern about air pollution's effects on health, while 56% understood that air pollution affects all ages but especially vulnerable groups like such as children, the elderly, and those with heart and lung conditions. Half of the respondents were aware that inhaled pollutants can reach the bloodstream and organs.

**Sources of Pollution:** 88% of respondents identified road traffic as the main source of outdoor air pollution, followed by home domestic burning (30%), industrial activities (28%), and construction (27%). For indoor air pollution, 60% linked it to outdoor sources, such as vehicle emissions, with cleaning products (42%) and solid fuel burning (39%) also significant. A small percentage cited alternative sources (something else), like such as garden fires and poor ventilation.

**Travel Habits:** Over half of the respondents (54%) travel less than 4 miles to work, and 58% primarily use cars. Short journeys (<2 miles) are also dominated by car use (44%).

**Air Quality Improvement:** Walking more (67%) was the most common suggestion for improving air quality, while 69% of respondents do not use log burners or open fires at home.

**Behavioural Change:** Respondents voiced concerns about public health, the environment, urban planning, and quality of life. These insights will inform strategies to raise awareness, reduce air pollution exposure, and promote air quality information. However, further targeted surveys to obtain more additional input from younger populations (students) is recommended for a comprehensive understanding.



## 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
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
BEV	Battery Electric Vehicles
CO <sub>2</sub>	Carbon Dioxide
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EC	Euro Code. European vehicle emission standards for pollution.
EEA	European Environmental Agency
EFT	Emissions Factor Toolkit
EV	Electric Vehicles
HGV	Heavy Goods Vehicles

## Wyre Forest District Council

ICE	Internal Combustion Engine
LAQM	Local Air Quality Management
LCWIP	Local Cycling and Walking Infrastructure Plan
LEV	Low Emission Vehicle
LEVI	Local Electric Vehicle Infrastructure
LGV	Light Goods Vehicles
NEVIS	National Electric Vehicle Insight and Support
NHS	National Health Service
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
NWWC	North West Worcestershire Corridor
PHE	Public Health England
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
RCV	Refuse Collection Vehicles
WCC	Worcestershire County Council
WFDC	Wyre Forest District Council
WHO	World Health Organisation
WRS	Worcestershire Regulatory Services

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