

Bargates Air Quality Action Plan

2014



Executive Summary

Herefordshire Council's Updating and Screening Report identified that the location of the traffic junction where the A44 road (known as "Bargates") meets with Dishley Street and Cursneh Road in Leominster was exceeding the government's nitrogen dioxide (NO₂) objective level.

A Detailed Assessment of the air quality in the vicinity of Bargates, Leominster was therefore undertaken and an Air Quality Management Area subsequently declared as the government's nitrogen dioxide objective level was observed to regularly breach at several monitoring locations here.

In accordance with statutory guidance and with an aim to improve the level of pollution at Bargates, Herefordshire Council has scoped 8 air quality actions.

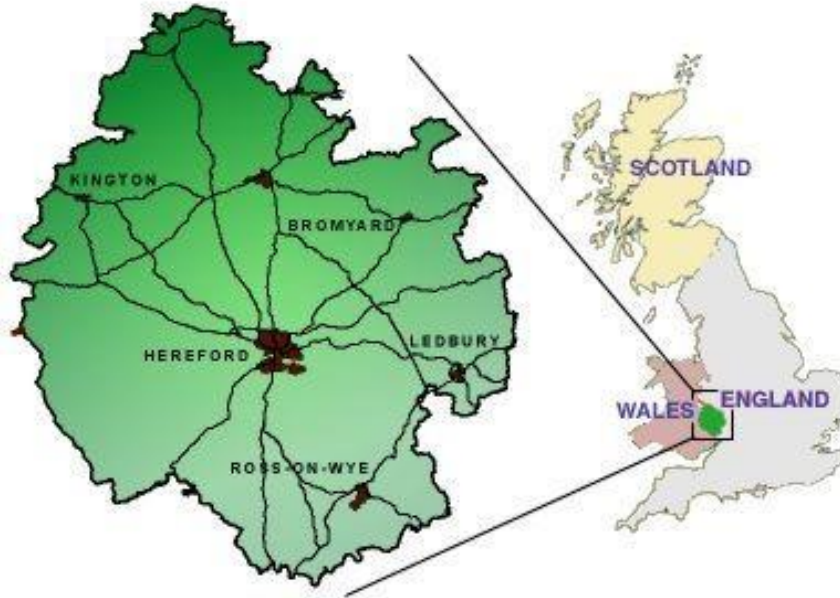
This report is entitled "The Bargates Air Quality Action Plan" and it assesses these actions.

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1. Introduction

- 1.1 The County of Herefordshire lies on the Welsh borders, being neighboured by the counties of Gloucestershire, Worcestershire, Shropshire, Powys and Gwent.



Map showing the central location of Hereford within the County and its location in the UK

- 1.2 The town of Leominster is situated to the north of the County and is the largest of the six market towns within the County. The town itself has a population of approximately 11,700 according to the 2011 Census from the Office for National Statistics¹. The town is surrounded by many villages and provides a service centre for the rural area with many commuting in and out of the town on a daily basis for their employment, education and business needs.



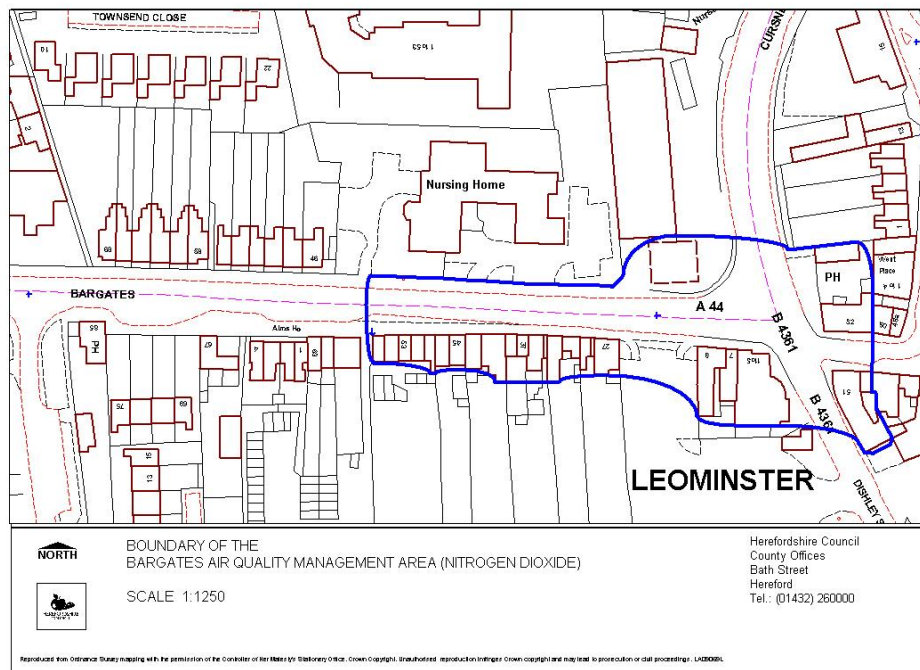
Map showing Leominster town, one of the major settlements within Herefordshire

- 1.3 To the west of the town centre is the A44, a principle A road which runs from the town centre towards the neighbouring Welsh border. There is a traffic light junction here, where the A44 road (Known as “Bargates”) meets with the B4361 (Dishley Street) and Cursneh Road in Leominster.
- 1.4 A detailed assessment was carried out in 2004 and a prediction was made to assess air quality levels around the vicinity of this junction using modelling². It stated that the government’s objective level for NO₂ would continue to be exceeded in 2005 along the southern side of Bargates, as far west as number 29 (monitoring location number 61).
- 1.5 In January 2006, the Bargates AQMA was designated as NO₂ levels indicated continued breaches of the government’s objective. The annual NO₂ levels peaked in 2006 and although they seem to have decreased at the majority of monitoring locations since, they continue to breach the government objective of 40 µg/m³ at several monitoring locations.
- 1.6 The Department for Transport measures the number of vehicles passing certain points along our road networks each day, measuring data known as the Annual Average Daily Flow (AADF). A counting point is located on Barons Cross Road which Bargates leads into. These figures show that in 2003, the AADF was 14,348 which increased to 15,912 in 2012, an increase of nearly 11%.

2. The Air Quality Management Process

- 2.1 Herefordshire Council is required by the government to regularly review and assess the air quality across the entire county every three years, as part of the UK's 'National Air Quality Strategy' and its associated guidance⁸.
- 2.2 Herefordshire has therefore been monitoring pollution for many years. This has comprised of nitrogen dioxide (NO₂) diffusion tube monitoring since 1993, which included the installation of a nitrogen dioxide continuous analyser in 1995 and the installation of a particulate (PM₁₀) continuous analyser in 1997 in Hereford City. During the first round of review and assessment, Herefordshire Council improved the standard of this monitoring by implementing various recommendations made by the Government (Defra) to ensure the accuracy and credibility of the data captured⁸. The nitrogen dioxide analyser was later upgraded in April 2007. The results from the analyser were historically used for co-location studies on the accuracy of the county-wide diffusion tubes. Today, nationally agreed multipliers are used for this purpose.
- 2.3 Monitoring in Leominster, in particular the Bargates vicinity, was increased from three monitoring locations in 2001 to a further 4 sites in 2003 with an additional one in 2008, this totalling 8 monitoring locations at the present time. The data from these tubes is adjusted for bias each year. Historically this was achieved by using a 'correction factor' calculated via triplicate tubes co-located beside the Hereford chemiluminescent analyser's inlet port and latterly from the database of co-location studies issued by the University of West England (UWE) on behalf of Defra. Herefordshire Council tended to use the locally determined correction factors rather than the UWE's where possible and this has been historically accepted by Defra as being more accurate. However, due to malfunctions of the analyser in certain years and the need to reduce monitoring costs, it has been necessary to revert to the national data.
- 2.4 Many of the diffusion tubes have now been relocated to more meaningful locations (house facades), which correspond to public exposure⁸. Defra also has an Automatic Urban and Rural Network (AURN) site adjacent to the Minster school in Leominster which continuously monitors nitrogen dioxide and ozone.
- 2.5 The 'Stage 2 Air Quality Assessment' for Herefordshire released in 2000 identified areas that required further assessment for nitrogen dioxide which included the Bargates area of Leominster. Defra agreed with this recommendation⁵.
- 2.6 The Updating and Screening Assessment for Herefordshire in 2003 stated that there were elevated NO₂ monitoring results in the area of the 'Bengry Lights'/Bargates in Leominster and recommended that the diffusion tube monitoring programme continue, together with additional diffusion tubes being placed on the façade of housing in the vicinity of Bargates, in order to pre-empt the detailed assessment work to be undertaken there⁶.

- 2.7 In July 2004, a Detailed Assessment air quality report was released which looked specifically at the air quality in the Bargates area of Leominster. Public consultation followed in late 2004/early 2005₂.
- 2.8 The Progress Report for 2005 stated that nitrogen dioxide annual mean objective was likely to be breached in Leominster at the Bargates/Dishley Road/Cursneh Road junction and that an Air Quality Management Area would be declared and once declared, a separate Air Quality Action Plan would be drafted₇.
- 2.9 In January 2006, the Air Quality Management Area for Leominster was designated as The Bargates (Leominster) Air Quality Management Area (Nitrogen Dioxide) Order 2006, as shown below.



Map showing the Leominster Air Quality Management Area delineated in blue

- 2.10 The Updating and Screening Assessment for Herefordshire in 2006 stated that it would be considering what actions could be taken following the declaration of the County's second air quality management area in Bargates, Leominster in January 2006₈.
- 2.10 The Progress Report 2007 stated that the Bargates Air Quality Action Plan would be drafted with relevant stakeholders₉.
- 2.11 The Progress Report for 2008 stated that a separate Air Quality Action Plan will be drafted for the Bargates AQMA and public consultation will be encouraged at this stage₁₀.
- 2.12 The Updating and Screening Assessment for Herefordshire in 2009 stated that two sites within the AQMA at Bargates, Leominster were exceeding the nitrogen dioxide objective but that new sites adjacent to the current boundary

of the AQMA were below the objective, showing that no amendments to the delineation of its area were required₁₁.

- 2.13 The Progress Report for Herefordshire in 2010 stated that measurements at one site within the AQMA at Bargates were exceeding the nitrogen dioxide objective with another site borderline, but that new sites adjacent to the current boundary of the AQMA were below the objective, again showing that no amendments were required to the area delineated₁₂.
- 2.14 The Progress Report for Herefordshire in 2011 stated that measurements at two sites within the AQMA at Bargates were exceeding the Nitrogen Dioxide Objective, although it found that new sites adjacent to the current boundary of the AQMA were below the objective, reinforcing that no amendments to the area were required.
- 2.15 The Updated and Screening Assessment 2012 looked at the latest 2011 data and found that site 46 (Bengry's Lights, House façade) was marginally below the objective level in 2009 and in 2010 rose to 42.78µg/m³. It also reported that site 61 (29 Bargates) had been the highest concentration of nitrogen dioxide in the County in more recent years and although it was still exceeding the level at 46.5µg/m³ in 2010 it was at its lowest level in five years. It was one of the few sites in 2010 that had a decreased NO₂ level from 52.3µg/m³ in 2009. Both of these sites were assessed to estimate the concentration at nearest receptor.
- 2.16 A third site 60 (Connolly's PH, Cursneh Road, Leominster) also within the AQMA had increased in 2010 in line with the upward trend to 31.02µg/m³ from 26.0µg/m³ in 2009.
- 2.17 All other monitoring sites for Nitrogen dioxide in Leominster showed levels below the objective level of 40 µg/m³, therefore showing that no amendments to the AQMA were required.
- 2.18 The draft Progress Report for Herefordshire in 2013 states two sites within the Bargates AQMA are still monitored for NO₂. It reports on 2012 data.

3. Why do we need an Action Plan and what must it achieve?

- 3.1 Herefordshire Council is required by section 84(1) of the Environment Act 1995 and its statutory guidance to formulate an 'Air Quality Action Plan' to aim to reduce the air pollution within the designated Bargates (Leominster) AQMA and to agree a timescale for this⁴.
- 3.2 The Council has therefore considered potential improvements that would help reduce pollution in the vicinity of Bargates and, in liaison with a number of stakeholders, considered 12 air quality actions and scoped these down to 8.
- 3.3 In accordance with the technical guidance / best practice and the emerging Herefordshire Local Plan (Core Strategy), the action planning is explained in Table 1 below¹:

Table 1: Action Planning Requirements from Statutory Guidance

Statutory Requirement	How this has been or will be achieved
Quantification of the source contributions to the predicted exceedances of the NO ₂ objective so that the action plans are effectively targeted.	A 'Further Assessment' report should be undertaken after the Action Plan to gauge its performance.
Evidence that all available options have been considered on the grounds of cost effectiveness and feasibility.	A Herefordshire Air Quality (Bargates) Steering Group has scoped the 12 proposals offered in this report down to 8. The action plan takes into account the latest Local Transport Plan, as well as the Herefordshire Unitary Development Plan and the emerging local plan (core strategy) recommendations.
How the Council will use its powers and also work in conjunction with other organisations in pursuit of the NO ₂ objective.	The majority of the actions are the responsibility of the Council and many are captured in its Local Transport Plan.
Clear timescales in which the Council and other organisations propose to implement the measures within its plan.	Timescales and responsibilities are included in the 8 action plan tables in Chapter 8 of this report.
Quantification of the expected impacts of the proposed measures and, if possible, an indication as to whether these measures will be sufficient to meet the NO ₂ objective.	As well as a Further Assessment Report, future monitoring will be undertaken to gauge trends and the impact of the Action Plan.
How the Council intends to monitor and evaluate the effectiveness of the plan.	The action planning proposals and their impact will be evaluated by the continuing monitoring programme already in place and will be reported on via the Council's annual air quality progress reports.

- 3.4 A Further Assessment is recommended by statutory guidance to confirm the boundaries of identified areas of exceedances.

4. Where does the pollution come from?

- 4.1 The Bargates junction has three lanes of traffic – two lanes heading east into the town and one lane coming running from the town heading west.
- 4.2 Table 2 below shows how the average daily flows here have changed since 2000. It can be seen that since 2006, the numbers of HGVs have noticeably decreased and this may link to the reduction in NO₂ levels that have been decreasing slowly since this time, as detailed in section 5.

Table 2: DfT Annual Average Daily Traffic Flows for Counting Point on Barons Cross Road

CP	Road	Year	2WMV	Car	Bus	LGV	HGV	All MV
80675	A44	2000	23	12554	203	1195	938	14913
80675	A44	2001	25	12165	213	1203	854	14460
80675	A44	2002	25	12360	215	1289	813	14702
80675	A44	2003	36	11902	209	1400	801	14348
80675	A44	2004	23	12057	171	1542	925	14718
80675	A44	2005	20	11503	161	1643	925	14252
80675	A44	2006	118	13253	138	1879	589	15977
80675	A44	2007	113	13041	126	1979	541	15800
80675	A44	2008	108	12754	108	2020	528	15518
80675	A44	2009	120	13035	106	2050	491	15802
80675	A44	2010	114	12957	120	2189	495	15875
80675	A44	2011	96	12918	114	2443	514	16085
80675	A44	2012	92	12716	124	2472	508	15912

- 4.3 The NO₂ around the A44 corridor in the vicinity of the Bargates junction is recognised as being linked to traffic emissions. Therefore, the action plan focuses only on traffic related issues and does not, for example, include those areas of pollution control work traditionally associated with environmental health departments and/or the work of the Environment Agency. In keeping with this, although the following list of environmental actions are ongoing they have not been included in the final air quality plan.
- 4.3.1 Regulation of industry through 'Local Air Pollution Control' and 'Integrated Pollution Prevention and Control' by Herefordshire Council.
The Council's various 'Updating and Screening Assessment' reports⁸ have found that the regulation of Part B and A2 industrial processes within the city is not significant in terms of the apportionment of nitrogen dioxide in the A44 Bargates junction where the air quality management area has been declared.
- 4.3.2 Regulation of industry through 'Integrated Pollution Prevention and Control' (IPPC) by the Environment Agency
There are no Part A1 industrial processes near to the declared Bargates AQMA for consideration in terms of contributing to any nitrogen dioxide.
- 4.3.3 Regulation of Smoke by the Council under the Clean Air Act 1993.

The Council's air quality reports₈ continually find that the regulation of dark smoke from industrial chimneys in Leominster is not significant in terms of the nitrogen dioxide apportionment in the vicinity of the Bargates AQMA.

4.3.4 Domestic Smoke Control via the Council's enforcement of the Clean Air Act 1993

The Council's air quality reports₈ do not find the absence of smoke control areas in Leominster relevant for the NO₂ objective in the vicinity of the Bargates AQMA.

4.3.5 Statutory nuisance via the Council's enforcement of part III of the Environmental Protection Act 1990

This is essentially a reactive power to be invoked in the case of smoke, dust, fume and smell nuisance complaints. The Council does not consider these to be significant for the purposes of the action plan.

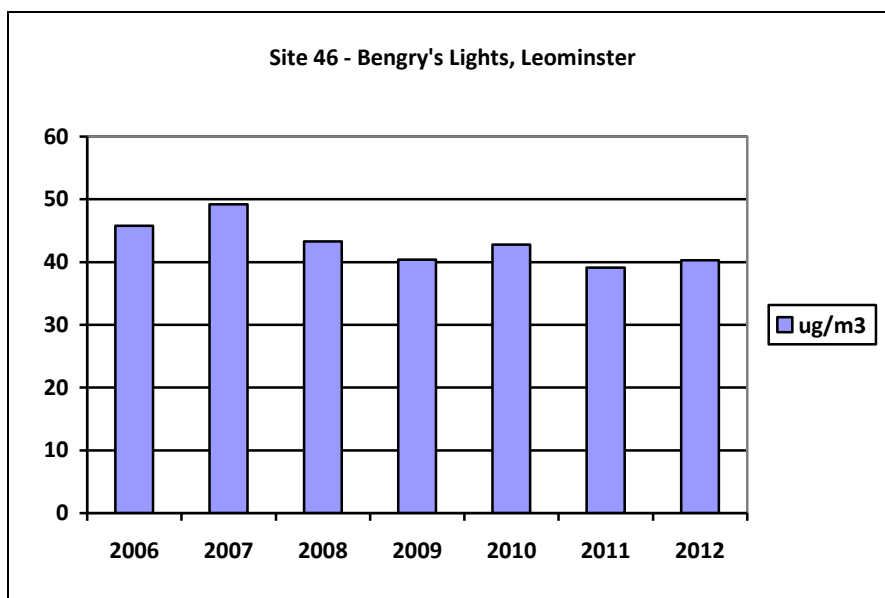
5. How much do pollution levels have to be reduced by?

- 5.1 The purpose of an air quality action plan is to help bring down air pollution in hot spot areas.
- 5.2 It is not just the occasional 'high pollution' day that can damage health, as it is thought that long term exposure to lower levels of pollution can also be harmful to health. This is relevant to Leominster as it is the annual $40\mu\text{g}/\text{m}^3$ average NO_2 target that is being exceeded and not the hourly objective.
- 5.3 There have been five monitoring sites within the close vicinity of the Bargates junction, namely:
- site 46 (Bengry's Lights),
 - site 60 (Connolly's PH / Cursneh Road),
 - site 61 (29 Bargates),
 - site 62 (46 Bargates),
 - site 63 (85 Bargates).

Of these, sites 46 and 61 have been identified as continuing to breach the government's objective level and are still therefore monitored.

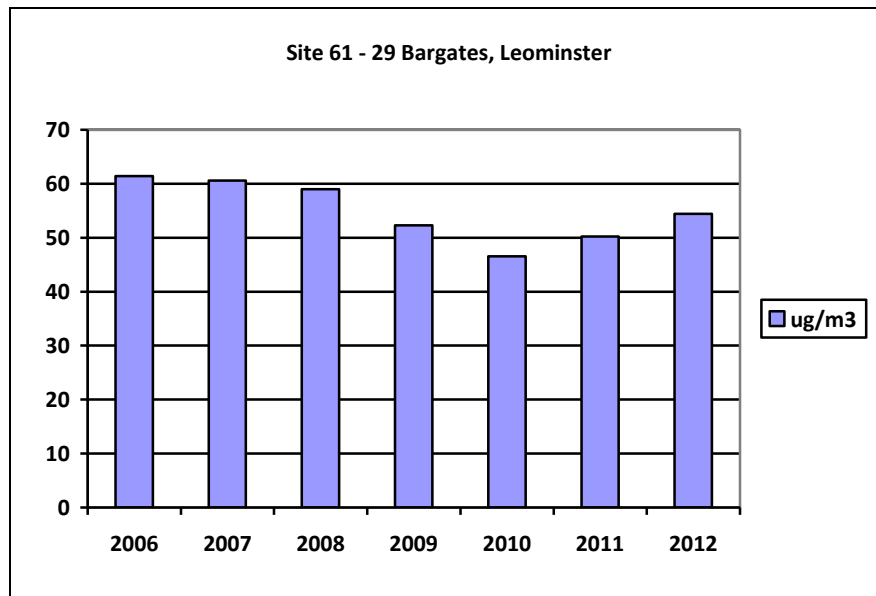
- 5.4 Site 46 (Bengry's Lights) is situated on a house façade very near to the traffic light junction. Figure 1 below shows that levels were marginally above the objective in 2012 with levels of $40.3\mu\text{g}/\text{m}^3$

Figure 1: Site 46 Bengry's Lights, Leominster NO_2 levels



- 5.5 Site 61 (29 Bargates) increased to $54.4\mu\text{g}/\text{m}^3$ in 2012 from $50.2\mu\text{g}/\text{m}^3$ in 2011, as shown in Figure 2 below. This monitoring site has the highest concentration of nitrogen dioxide in the county.

Figure 2 Site 61 - 29 Bargates, Leominster NO₂ levels



- 5.6 Site 78 (46 Broad Street, Leominster), which is outside of the AQMA, also measured an increase in 2012 to 33.5 $\mu\text{g}/\text{m}^3$ in line with the upward trend.
- 5.7 This report now attempts to assess the impact of the proposed 8 action plan measures in order to determine their effectiveness in meeting the necessary pollution reductions to meet the 40 $\mu\text{g}/\text{m}^3$ target for the annual nitrogen dioxide levels for roadside housing in the vicinity of the Bargates traffic junction.

6. What's being done already?

- 6.1 National policies that might reduce NO₂ in Leominster include vehicle and fuel taxation, which attempt to reduce the emissions by reducing the rate of traffic growth. There are also national promotions of less polluting vehicle technology, including LPG and electric cars.
- 6.2 Locally Herefordshire Council, through its Local Transport Plan, is committed to developing an integrated, sustainable transport system for Herefordshire, recognising that our present car culture is unsustainable, damaging to the quality of life in the county and costly to business. The Council is therefore committed to delivering a general shift towards more sustainable and healthy modes of travel, such as walking, cycling and public transport. It also seeks to dissuade single occupancy car use.
- 6.3 Local measures already completed are:
- A new cycle way has been completed in 2010 at Barons Cross.
 - Vehicle emission testing. This has been carried out near to the Bargates AQMA to randomly test vehicle emissions in conjunction with the Vehicle & Operator Services Agency (VOSA).



Vehicle emission testing in Leominster has found that vehicles are becoming more and more compliant as new vehicles tend to replace the older ones

- 6.4 The Herefordshire Air Quality Bargates Steering Group was set up in 2011 and comprised of representatives from:
- Environmental Health & Trading Standards, Herefordshire Council
 - Transportation, Herefordshire Council
 - Strategic Planning, Herefordshire Council
 - Development Management, Herefordshire Council
 - Environmental Sustainability, Herefordshire Council
 - Economic Development, Herefordshire Council
 - Herefordshire Primary Care Trust / Public Health
 - Environment Agency

It met to discuss the current levels and trends associated with pollution within Herefordshire and to agree the proposed action planning work within this report. The existence of an Air Quality Steering Group is considered to be 'best practice' by the technical guidance note LAQM PG(09)⁴.

7. Bargates' Air Quality Action Plan Measures

7.1 The Council has scoped 8 air quality actions in liaison with the multi discipline 'Herefordshire Air Quality Bargates Steering Group'. These actions are listed below:

Number	Action	Target Date
1	Improvements to the traffic light sequencing at the A44/B4361 junction at Bargates	Completion due in 2014 - 2015
3	Improvements to the cycle facilities/routes between the Morrisons Store and the town centre	2014 - 2016
4	Improvements to the public transport facilities/provision between the Morrisons Store and the town centre	2014 - 2016
5	Improve and increase number of pedestrian routes and facilities in Leominster	2014 - 2016
6	Behavioural Change Programme	Ongoing
7	Information and awareness raising	Ongoing
8	Development of a Southern Relief Road as an integral part of the development of an urban extension for Leominster as part of the Local Plan – Core Strategy	For the period up to 2031

8. Assessment of Air Quality Actions

Action Number 1:	Improvements to the traffic light sequencing at the A44/B4361 junction at Bargates (subject to funding provided as a contribution from the Morrisons Store extension and funding provided as a contribution from the Barons Cross residential development)
Action	Alterations to the traffic light sequence to minimise queuing HGVs and buses at the traffic lights. (Note – The relocation of pedestrian crossing to the west of the traffic lights is no longer being pursued).
Responsibility	Herefordshire Council - Highways and Transportation Service
Other Environmental Effects	May reduce noise at junction.
Council's Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment
Cost to Implement	Medium To be funded from section 106 contributions DCNC2006/1129/F 40-42 West Street, Leominster, DCNC2006/2202/F Old Police Station, Ryelands Road, Leominster, DCNC2007/0044/F Land at Middlemarsh DCNC2008/1233/F & DCNC2009/0836/F Morrisons Leominster , with any remainder from Herefordshire Council.
Time Needed to Implement	To be completed 2014 - 2015
Possible Public Perceptions	Quicker sequencing likely to be welcomed, although this will be to the detriment of traffic heading west.
Practicality and Applicability	Practical and applicable to all traffic entering Leominster from the west.
Action to Reduce Negative Perceptions	Negative perception possible in relation to prioritisation of traffic heading east. Need to emphasise overall environmental and congestion gain. Disseminate information relating to successful schemes. Highlight that funding source is from the private sector.
Is it Included in LTP?	Yes
Impact to be modelled?	Possibly via a further assessment.
Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.

Action Number 2:	Improvements to cycle facilities/routes between west Leominster and the town centre
Action	Improve cycle facilities/routes in Leominster, to encourage motorists to transfer to cycling as their commuter/shopper/leisure trip travel mode.
Responsibility	Highways and Transportation Service of Herefordshire Council.
Other Environmental Effects	Improves overall Leominster environment through reduced noise, emissions and congestion. Improved visual amenity.
Council's Draft Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment and move us towards being a low carbon county.
Cost to Implement	Medium There is potential funding from developer contributions planning application N120887/O - Proposed extension of time to planning applications DCNC2005/0917/O, DCNC2007/09170/RM and DMNC100122/RM - site for the erection of a maximum of 425 new dwelling, a community centre vehicular access and associated works. The development is acceptable in principle but subject to the completion of a section 106 agreement which is being processed.
Time Needed to Implement	2014 - 2016
Possible Public Perceptions	Encourages improved health and fitness. More social interaction, more socially inclusive. Reduced cost for cycle commuters. Facilities for cyclists needed. Council spending too much tax payers money on non-effective measures. Too expensive for limited return. Negative perception on personal safety, cyclists on their pavements and cyclists jumping red lights. Reduced congestion.
Practicality and Applicability	It is practicable and applicable to those travelling east – west in Leominster.
Action to Reduce Negative Perceptions	Disseminate information relating to successful schemes. Highlight private sector funding source.
Is it Included in LTP?	Yes
Impact to be modelled?	No
Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.

Action Number 3:	Improvements to the public transport facilities/provision between the Morrisons Store and the town centre
Action	Improve public transport facilities/provision in Leominster, to encourage motorists to transfer to cycling as their commuter/shopper/leisure trip travel mode. This to be achieved by financial contributions to bus service provision and bus shelters in the Barons Cross / Bargates corridor.
Responsibility	Highways and Transportation Service of Herefordshire Council.
Other Environmental Effects	Improves overall Leominster environment through reduced noise, emissions and congestion. Improved visual amenity.
Council's Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment and move us towards sustainable public transport provision
Cost to Implement	<p>Medium</p> <p>To be funded from section 106 contributions DCNC2008/1233/F & DCNC2009/0836/F Morrisons Leominster.</p> <p>There is also the potential for funding from developer contributions planning application N120887/O - Proposed extension of time to planning applications DCNC2005/0917/O, DCNC2007/09170/RM and DMNC100122/RM - site for the erection of a maximum of 425 new dwelling, a community centre vehicular access and associated works. The development is acceptable in principle but subject to the completion of a section 106 agreement which is being processed.</p>
Time Needed to Implement	2014 - 2016
Possible Public Perceptions	More social interaction, more socially inclusive. Reduced cost for public transport commuters. Council spending too much tax payers money on non-effective measures. Reduced congestion.
Practicality and Applicability	It is practicable and applicable to those travelling east – west in Leominster.
Action to Reduce Negative Perceptions	Disseminate information to encourage uptake of public transport provision.
Is it Included in LTP?	Yes
Impact to be modelled?	No
Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.

Action Number 4:	Improve and increase number of pedestrian / footpath routes in Leominster linking Barons Cross to the town centre
Action	Improve and increase number of footpaths in Leominster linking Barons Cross to the town centre, to encourage motorists to transfer to footpaths as their commuter/shopper/leisure trip travel mode.
Responsibility	Highways and Transportation Service of Herefordshire Council.
Other Environmental Effects	Improves overall Leominster environment through reduced noise, emissions and congestion. Improved visual amenity.
Council's Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment
Cost to Implement	Medium There is the potential for the use of funding from developer contributions from planning application N120887/O - Proposed extension of time to planning applications DCNC2005/0917/O, DCNC2007/09170/RM and DMNC100122/RM - site for the erection of a maximum of 425 new dwelling, a community centre vehicular access and associated works. The development is acceptable in principle but subject to the completion of a section 106 agreement which is being processed.
Time Needed to Implement	2014 - 2016
Possible Public Perceptions	Encourages improved health and fitness. More social interaction, more socially inclusive. Reduced cost for walking commuters. Council spending too much tax payers money on non-effective measures. Negative perception on personal safety.
Practicality and Applicability	It is practicable and applicable to those travelling east – west in Leominster.
Action to Reduce Negative Perceptions	Disseminate information relating to successful schemes. Highlight funding sources, secure partnership funding where applicable. Marketing campaign.
Is it Included in LTP?	Yes
Impact to be modelled?	No
Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.

Action Number 5:	Behavioural Change Programme
Action	<ul style="list-style-type: none"> • Further promote 'school travel plans' in Leominster to reduce solo passenger school car journeys and implement the 'Safer Routes to Schools' project. • Initiate a Herefordshire Council 'Travel Plan' to encourage Council workers to commute to work by cycling, walking, public transport and car sharing. Also to encourage car pooling, bike pooling, and encourage council employee car parking restrictions. Encouraging flexible ways of working. • Encourage Leominster Businesses to adopt 'Travel Plans', through planning consents, campaigns and personal contact. • Encouraging greater car sharing through the development and promotion of 'Twoshare', the dedicated car sharing scheme. Car drivers are encouraged to share lifts by enrolling onto a countywide database of participating members.
Responsibility	Highways and Transportation Service of Herefordshire Council.
Other Environmental Effects	<ul style="list-style-type: none"> • Reduces peak hour congestion. • Reduces traffic on roads. • Reduces parking and congestion pressures • Improves wider environment by reduced noise levels and visual quality. • Improves pedestrian and cycling infrastructure. • Improved town environment • Long term protection of built environment. • Socially inclusive
Council's Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment
Cost to Implement	Low to medium
Time Needed to Implement	<p>Ongoing</p> <p><u>School Travel plans</u> Objective already in place and Council's School Travel Advisor is already working with schools to adopt travel plans.</p> <p><u>Council Travel Plan</u> Already being implemented. Take up hopefully to increase following continued promotion and relocation of majority of staff to one central office, location and date not yet known. Corporate support needed.</p> <p><u>Other Travel Plans</u> Already started. Travel plans for other Leominster businesses will hopefully increase in take up.</p> <p><u>Herefordshire Two-Share Initiative</u> Being implemented and campaign continuing. Hopefully take-up increasing. Future survey anticipated to determine successful take up of those registered on scheme.</p>

Possible Public Perceptions	<ul style="list-style-type: none"> • Encourages healthier and fitter adults and children. • May not be flexible for work, college and school needs of family. • Personal and road safety concerns, particularly for schools. • Commuters feel they are doing something positive and saving money. • Possible resistance to change, especially from staff who enjoy free parking. • May need to engender trust in list and users for Two-Share
Practicality and Applicability	<ul style="list-style-type: none"> • Applicable in cases where adults, students and children commute to work, college or school by car in Hereford. • Needs to be linked to other strategies such as cycling etc.
Action to Reduce Negative Perceptions	<ul style="list-style-type: none"> • Highlight positive health benefits through information campaign, • Overcome negative concerns of personal and road safety through training and through publicity campaigns. • Emphasise cheaper, healthier, safer travel and more choice. • Emphasise better home – life balance.
Is it in LTP?	Yes
Impact to be modelled?	No
Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.

Action Number 6:	Information and Awareness Raising
Action	<ul style="list-style-type: none"> • Improve the web site on air quality, • look to include real time monitoring from the Minster School site on the web site,
Responsibility	Herefordshire Council, led by Environmental Health and Trading Standards. Liaison with Public Health.
Other Environmental Effects	<ul style="list-style-type: none"> • Web site will raise environmental awareness in public
Council's Joint Corporate Plan 2011 - 2014	Should help preserve and enhance the environment – by keeping the public informed.
Cost to Implement	Low
Time Needed to Implement	<p>Ongoing:</p> <ul style="list-style-type: none"> • Web site being updated and in place. • Improvement of web real time data will require purchasing and/or upgrading equipment.
Possible Public Perceptions	Public likely to welcome information as being cost effective and informative. Asthma sufferers particularly likely to benefit.
Practicality and Applicability	Practical only if web site reviewed and kept up to date and equipment maintained.
Action to Reduce Negative Perceptions	Reassure public that cost is minimal
Is it Included in the LTP?	No
Impact to be modelled?	No – This is purely for information and awareness raising purposes only
Evaluation of Action?	Yes, via hits on the web site to be recorded, together with feedback.

Action Number 7:	Southern Relief Road
Action	Construction of an east – west relief road from Barons Cross to east of Leominster town centre.
Responsibility	Funding as part of an urban extension to the south of Leominster
Other Environmental Effects	<ul style="list-style-type: none"> • Would require significant land-take and loss of visual amenity. • Potential loss of wildlife habitat. • Will increase CO2 and other emissions. • May increase noise levels to a few properties on edge of town. • Potential light intrusion if illuminated. • Anticipate reduction in NO2 along Bargates and in AQMA.
Council's Draft Joint Corporate Plan 2011 - 2014	<ul style="list-style-type: none"> • Should secure the essential infrastructure for a successful economy. • Should help to improve transport and the safety of roads
Cost to Implement	Very high, but low to Council if privately funded.
Time Needed to Implement	<p>For the period up to 2031:</p> <p>The Herefordshire UDP (Unitary Development Plan) policy framework remains the statutory development plan but it is a plan designed to cover the period up to 2011. It will be replaced with the Local Plan – Core Strategy when this document is formally adopted. The emerging Local Plan – Core Strategy will plan for the period up to 2031, including the proposal for additional housing need in Leominster which is directly linked to the implementation of a Southern Relief Road. The plan is expected to be submitted to the Secretary of State later this year and subsequently will be subject to an Examination in Public by an independent inspector.</p>
Possible Public Perceptions	<ul style="list-style-type: none"> • Positive perception regarding economic development and employment as it would link east to west, bypassing the town centre. • Should significantly improve air quality by reducing pressure on the Bargates AQMA, as HGVs and through traffic should reduce. • Major negative perceptions from communities on proposed route and from environmental NGOs.
Practicality and Applicability	<p>Practical if privately funded. Applicable to east-west traffic only. Planning application would be required, Also, compulsory purchase orders (CPOs) may also be required although the entire route of the road may be in the control of the developers.</p>
Action to Reduce Negative Perceptions	<ul style="list-style-type: none"> • Road would have to be constructed having regard to full environmental mitigations to be proposed in a planning application and its EIA. There would be public consultation regarding any proposed route and its design (through both the LDF and any planning application). • Improvement of local economy and bettering of the environment of the Bargates corridor. • Good landscaping required.
Is it Included in LTP2?	Reference is made to the Zone of Interest included in the UDP and the proposal is set out in the draft Local Plan – Core Strategy. No funding is allocated in LTP2 towards this scheme.
Impact to be modelled?	Yes – Possible modelling could be sought for revised traffic flows, HGV% and queuing data.

Evaluation of Action?	Yes, by using long term /trend Bargates diffusion tube data and via future traffic flows (AADT) compared with AADTs prior to this action.
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9. Conclusions

- 9.1 Since the declaration of an AQMA in Leominster in 2006, there have continued to be exceedances of the government's NO₂ objective along the A44 corridor. These continue into 2014 at two monitoring locations.
- 9.2 Although no new exceedance areas outside the AQMA are expected, further monitoring has continued by Herefordshire Council to keep this under review.
- 9.3 Herefordshire Council has scoped 8 air quality actions and these make up the proposed air quality action plan.
- 9.4 All 8 actions are likely to have an impact on traffic pollution levels either directly or indirectly.
- 9.5 Herefordshire Council therefore concludes that the 8 actions proposed will significantly help to reduce the number of houses in Leominster which are currently affected by pollution. This conclusion is reached, despite year on year annual increases in vehicle ownership and the inevitable increases in traffic movements.
- 9.6 The next chapter makes recommendations based on the above and also proposes that the actions are reviewed to ensure that these projections remain accurate.
- 9.7 When any areas of the AQMA become no longer relevant, then the boundary should be altered and ultimately undeclared.

10. Recommendations

- 10.1 Herefordshire Council recommends that the actions in this plan are, where appropriate, considered for modelling via a 'Further Assessment' report, yet to be commissioned from a suitable consultancy.
- 10.2 Thereafter the performance of these actions should be regularly evaluated and reviewed via annual air quality reports.
- 10.3 Herefordshire Council will maintain the air quality management area in Leominster until satisfied that no houses are at risk of exceeding the annual mean $40\mu\text{g}/\text{m}^3$ nitrogen dioxide objective. In the interim, the boundary will be reviewed and if necessary formally amended to take into account changes in pollution levels.

11. How to contact us

We would welcome the opportunity to discuss this report with you or to discuss any other issues relating to the air quality of Herefordshire.

You can contact us as follows:

Helpdesk infoethelpline@herefordshire.gov.uk 01432 261761

Or write to us at:

Environmental Health & Trading Standards,
Blueschool House,
Blueschool Street,
Hereford.
HR1 2ZF

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