2014 Action Plan Framework for North West Leicestershire District Council

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date April 2014

Local Authority Officer	Street Action Team Community Services
Department	North West Leicestershire District Council, Council Offices, Whitwick Road, Coalville, Leicestershire, LE67 3FJ
Address	01530 454545
Telephone	Environmental.protection@nwleicestershire.gov.uk
E-mail	Street Action Team Community Services
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Executive Summary

The Government has adopted a National Air Quality Strategy which focuses on certain air pollutants.

North West Leicestershire District Council has declared 5 Air Quality Management Area (AQMAs). The AQMA's in Kegworth, Castle Donington, and Copt Oak were declared because the areas have not achieved the annual mean objective set out in the National Air Quality Strategy for the nitrogen dioxide. The AQMA's in Coalville and M1 Molehill were declared because the areas have not achieved the annual mean objectives for nitrogen dioxide and it is believed that the areas are not achieving the hourly mean objective for nitrogen dioxide as set out in the National Air Quality Strategy

Objectives:

40 μgm^{-3} NO_2 when expressed as annual mean, to be achieved by 31st December 2005.

200 μgm^{-3} NO_2 when expressed as hourly mean, to be achieved by 31st December 2005.

After Detailed Assessments it was concluded that as there was no other significant sources of nitrogen dioxide in the areas, road traffic is the major source of nitrogen dioxide in all of the AQMA's.

The previous action plan included many community based interventions, which have had a negligible impact on air quality, and relied primarily on a major road building scheme in Kegworth, to improve air quality. It is recognised that in the current economic climate it is unlikely that funding for major road building schemes will be available. The previous action plan does not address the AQMA's at Castle Donington, Coalville, Copt Oak, or M1 Molehill

This action planning framework sets out a methodology for the assessment of traffic management and road layout modification schemes for which funding may be attainable

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1 Introduction

This is the revised Air Quality Action Plan for North West Leicestershire District Council (the "Council") that will help to improve air quality and work towards the achievement of the Government's air quality objectives in the designated Air Quality Management Area across the District. The Air Quality Action Plan includes details of existing initiatives as well as proposed measures and their implementation.

The Air Quality Action Plan is a statutory requirement and part of the Council's continuing Local Air Quality Management responsibilities under Part IV of the Environment Act 1995. The Council is seeking to produce the Action Plan in partnership with other stakeholder organisations and for that purpose is working closely with other agencies. The purpose of the Action Plan, as required by section 84 of the Environment Act, is to outline measures "in pursuit of the achievement of air quality standards and objectives in the designated area, of any powers exercisable by the authority".

This Air Quality Action Plan has been developed in recognition of these legal requirements. It summarises the air quality review and assessments that have been undertaken to date, focussing on exceedences of the Air Quality Standards, and outlining the mechanisms and the targeted measures proposed by North West Leicestershire District Council that aim to improve local air quality. The plan focuses on air quality within Air Quality Management Areas (AQMA).

1.1 Description of Local Authority Area

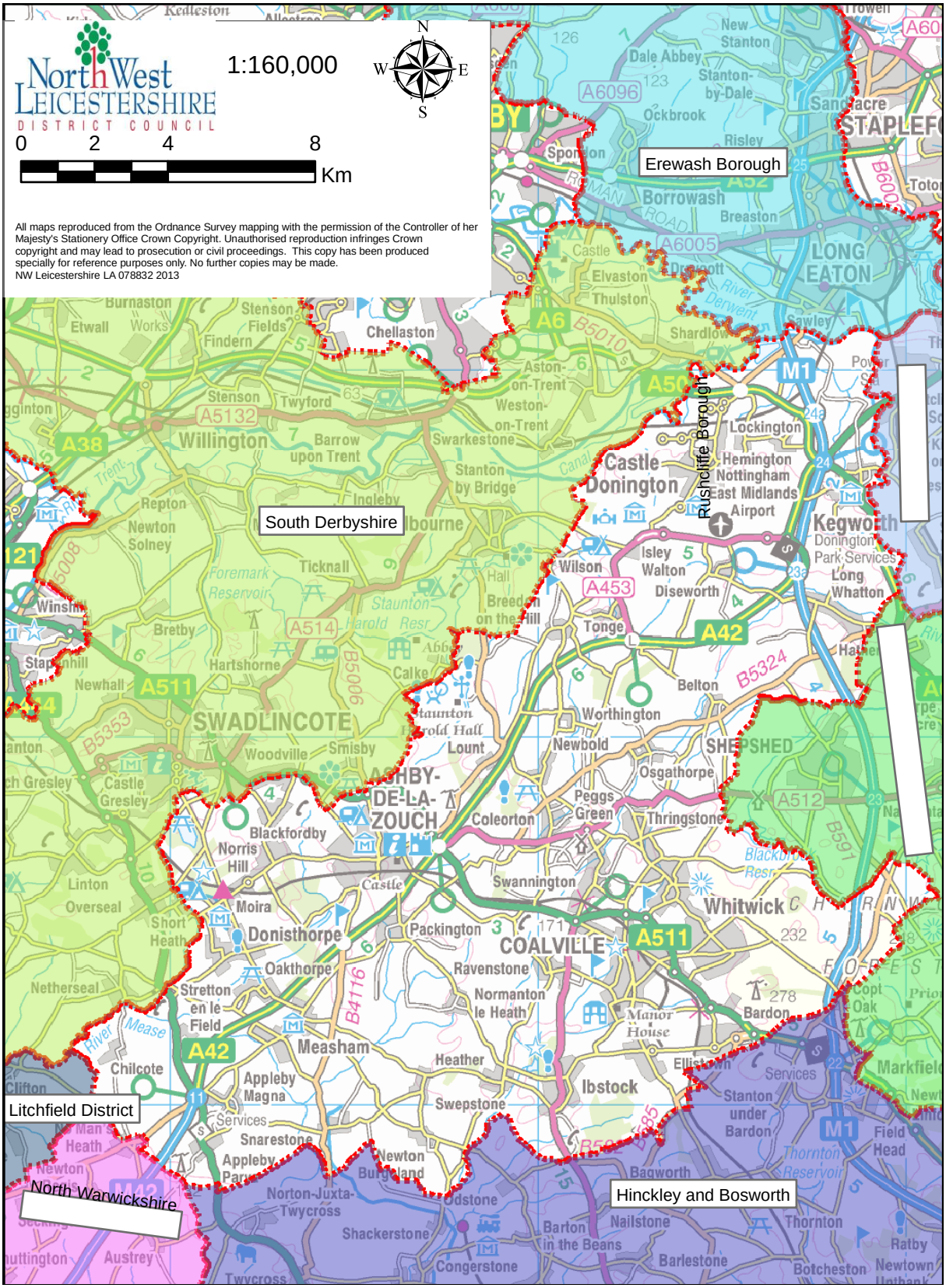
North West Leicestershire lies in the East Midlands Region and is both the name and geographical location. The district is situated in the heart of the National Forest and lies between Leicester, Burton-on-Trent, Derby and Nottingham, covering approximately 280Km^2 (approximately 108 square miles). The district is mostly rural with a large extent of industry historically from coal mining, but more recently with Nottingham East Midlands Airport and large quarries.

The 2011 census found the population of the district to be 93,468[50]; the population is mainly distributed in the principle towns of Coalville and Ashby-de-la-Zouch; and the large villages of Castle Donington, Kegworth and Ibstock.

Three established main roads run through the district,

- the M42/A42 between Birmingham and Nottingham,
- the M1,
- and the A511 from Leicester to Burton-on-Trent.

Figure. 1. Map of the Local Authority Area



1.2 Purpose of the Action Plan

To update and develop actions to be taken by

- North West Leicestershire District Council ;
- and Leicestershire County Council, as a Highway Authority; and
- The Highways Agency, as a Highway Authority,

to Improve the air quality in the district.

1.3 Report Contents and Structure

Policy Guidance LAQM.PG (09) was published by DEFRA in 2009 and provides statutory guidance on the development of air quality action plans. As a minimum, the AQAP is expected to include the following:

- Quantification of the source contributions to the predicted exceedences of the objectives; this will allow the action plan measures to be effectively targeted;
- Methods to ensure that options are considered on the grounds of cost effectiveness and feasibility;
- How the local authority will use its powers and also work in conjunction with other organisations in pursuit of the air quality objectives;
- Clear timescales in which the authority and other organisations and agencies propose to implement the measures within its plan;
- How the local authority intends to monitor and evaluate the effectiveness of the plan.

1.4 Air Quality Standards (AQS)

The air quality objectives applicable to Local Air Quality Management (LAQM) in England are set out in:

- the Air Quality (England) Regulations 2000 (SI2000/No.0928)[25],
- the Air Quality (England) (Amendment) Regulations 2002 (SI2002/No.3043)[26],

- The Air Quality Standards Regulations 2007 (SI2007/No.0064)[27], and
- The Air Quality Standards Regulations 2010 (SI2010/No.1001)[28].

They are shown in Table 1 which includes the number of permitted exceedences in any given year (where applicable).

Table 1. Air Quality Standards (AQS) included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved
Benzene	16.25 μgm^{-3}	Running annual mean	2003
	5.00 μgm^{-3}	Running annual mean	2010
1,3-Butadiene	2.25 μgm^{-3}	Running annual mean	2003
Carbon monoxide	10.0 mgm^{-3}	Running 8-hour mean	2003
Lead	0.5 μgm^{-3}	Annual mean	2004
	0.25 μgm^{-3}	Annual mean	2008
Nitrogen dioxide	200 μgm^{-3} not to be exceeded more than 18 times a year	1-hour mean	2005
	40 μgm^{-3}	Annual mean	2005
Particles (PM_{10}) (gravimetric)	50 μgm^{-3}, not to be exceeded more than 35 times a year	24-hour mean	2004
	40 μgm^{-3}	Annual mean	2004
Sulphur dioxide	350 μgm^{-3}, not to be exceeded more than 24 times a year	1-hour mean	2004
	125 μgm^{-3}, not to be exceeded more than 3 times a year	24-hour mean	2004
	266 μgm^{-3}, not to be exceeded more than 35 times a year	15-minute mean	2005

1.5 What is nitrogen dioxide?

Nitrogen dioxide is a brown gas, with the chemical formula NO_2 . It is released into the atmosphere when fuels are burned (for example, petrol or diesel in a car engine or natural gas in a domestic central heating boiler or power station). NO_2 can affect our health. There is evidence that high levels of it can inflame the airways in our lungs although such levels have not been measured; sensitive receptors such as people with asthma are

particularly affected. Over a long period of time it can affect how well our lungs work.

1.6 Summary of Previous Review and Assessments

Six AQMAs were designated in North West Leicestershire during the first round of review and assessment for the level of nitrogen dioxide concentrations. After Further Assessments it was determined that only two of these locations required AQMA designations and the remaining four were revoked. The Update and Screening Assessment (USA) undertaken in 2006 [1] concluded that these two sites should remain AQMAs and identified three additional locations where Detailed Assessments should be undertaken to determine whether new AQMAs were required for nitrogen dioxide concentrations. The two AQMAs designated during the first round are presented in Figure. 2 and Figure. 3.

The Detailed Assessment [6] undertaken in September 2007 of the three locations identified as possible areas for AQMAs in the USA 2006 [1], the three locations were High Street/Bondgate in Castle Donington, Broom Leys Road, Coalville and Bardon Road, Coalville, found that exceedences of the nitrogen dioxide objective were occurring in Castle Donington at properties located next to the carriageway along High Street and Bondgate due to traffic emissions. Monitoring at both locations in Coalville identified nitrogen dioxide concentrations that exceeded the mean annual objective during 2005, 2006 and 2007. The Detailed Assessment concludes that AQMAs should be designated at all three locations. As a result of these reports, two additional AQMAs were designated; the first in Castle Donington, presented in Figure. 4, and the second covering Broom Leys Road and Bardon Road in Coalville, presented in Figure. 5.

The Air Quality Progress Report conducted in April 2008 [7] recommended that a detailed assessment of the village of Copt Oak and the area surrounding East Midlands airport be undertaken to determine if AQMA’s should be determined at these locations.

The Detailed Assessment of Copt Oak published in January 2009 [9] found that an AQMA should be declared and that the area should cross the district boundary to include an area within the borough of Hinckley and Bosworth as shown in Figure. 6.

The Detailed assessment of East Midlands airport published in March 2009 [8] concluded that the Air quality objective for NO_2 would not be exceeded within 1000m of the airport as a result of air traffic emissions.

The further assessment of Bardon Road, Coalville published in February 2009 [10] supported the original declaration of the AQMA comprising the four residential properties at Broom Leys Junction and the one hundred and seventy two residential properties on Bardon Road.

The further assessment of High Street Castle Donington published in April 2009 [11] supported the original declaration of the AQMA comprising ninety one residential properties on High Street and Bondgate, Castle Donington.

The update and screening assessment published October 2009 [12] found that a detailed assessment for SO_2 was required in some areas of the district in relation to the burning of solid fuel, to which this report relates. The report also recommended that the M1 AQMA is expanded to include an exceedence of the 1-hour mean objective for NO_2 as the yearly mean has exceeded 60μgm^{-3}.

The Progress Report published in April 2010 [13] found no significant change in the district.

A Detailed Assessment for SO_2 was conducted in 2010 [14]. This found that solid fuel usage within off-gas areas of the district was insufficient to warrant further investigation.

A Detailed assessment of the M1 AQMA conducted in 2011 [16] found that most of the declared area could be revoked as there is either no relevant

receptor or the annual mean air quality standard for NO_2 is not being exceeded.

A Detailed Assessment of the Coalville AQMA conducted in 2011 [15] found that the declared area could be reduced to the declared area of Stephenson Way as the annual mean air quality standard for NO_2 is not being exceeded along Bardon Road.

The 2011 progress report [17] found that Broomleys junction in the Coalville AQMA exceeded the 1-hour mean air quality standard for NO_2 and recommended that a detailed assessment be undertaken.

The progress report also found that the current air quality action plan is insufficient and needs to be updated.

The 2011 detailed assessment of 1-hour Mean Air Quality Standard at Broomleys junction Coalville[18] found that the 1-hour mean air quality standard was being exceeded and the AQMA should be amended.

The 2012 detailed assessment of Castle Donington[20] found that a large proportion of the AQMA was not exceeding the air quality standard and recommended the AQMA be amended.

The 2012 Further assessment of Copt Oak [21] found that a large proportion of the AQMA was not exceeding the Air Quality Standard and recommended the AQMA be amended.

The 2012 Detailed assessment of Kegworth [22] found that it was likely that most of the AQMA was exceeding the Air Quality Standard and recommended a new monitoring location was installed in the north of the AQMA.

The 2013 Further assessment of Coalville AQMA [23] found that some of its area was not exceeding the annual mean or hourly mean air quality standards for NO_2. The report recommended that a traffic survey be undertaken to further inform action planning.

Figure. 2. Kegworth AQMA (highlighted in blue).

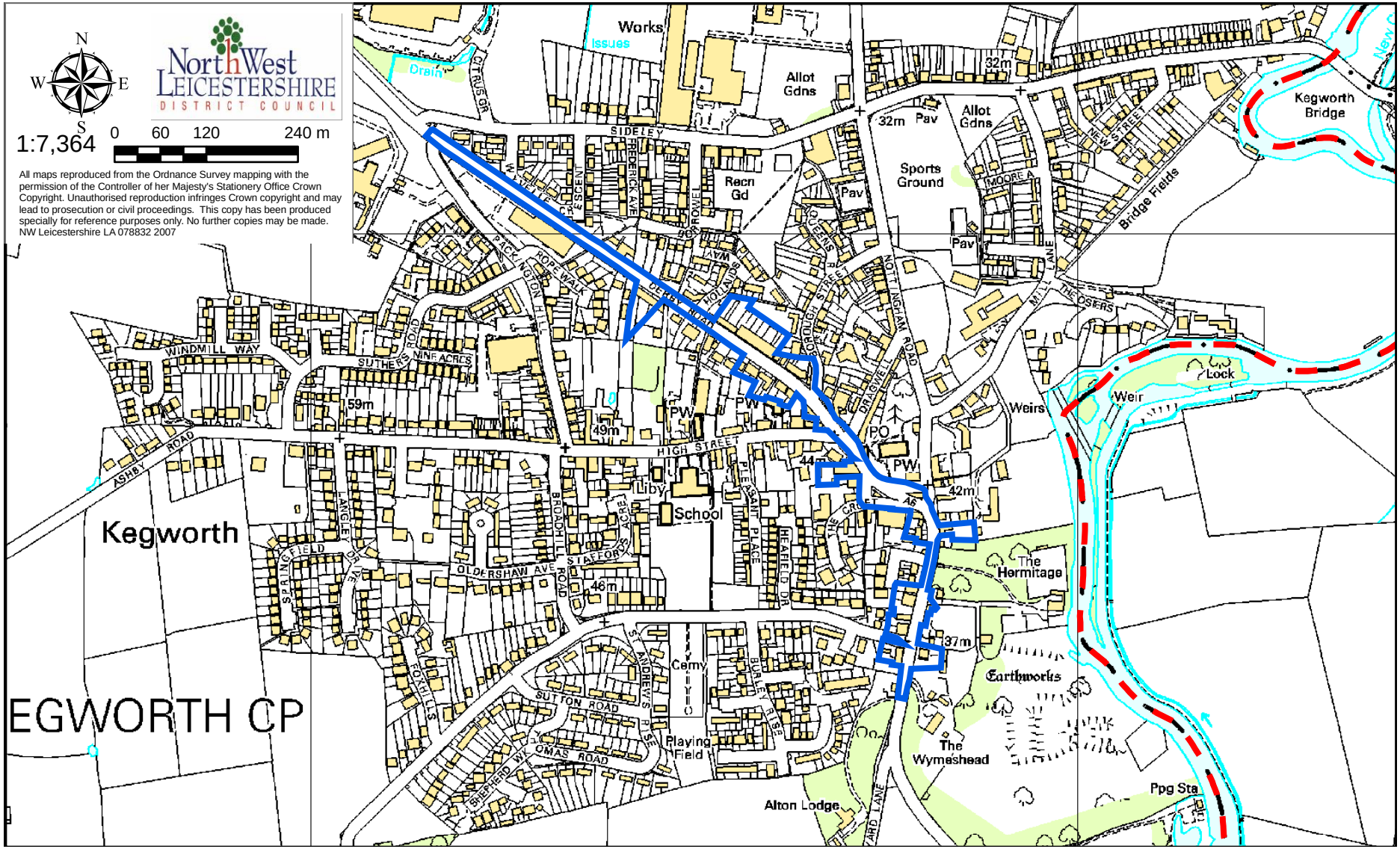


Figure. 3. M1 Molehill AQMA (Outlined in Dark Blue)

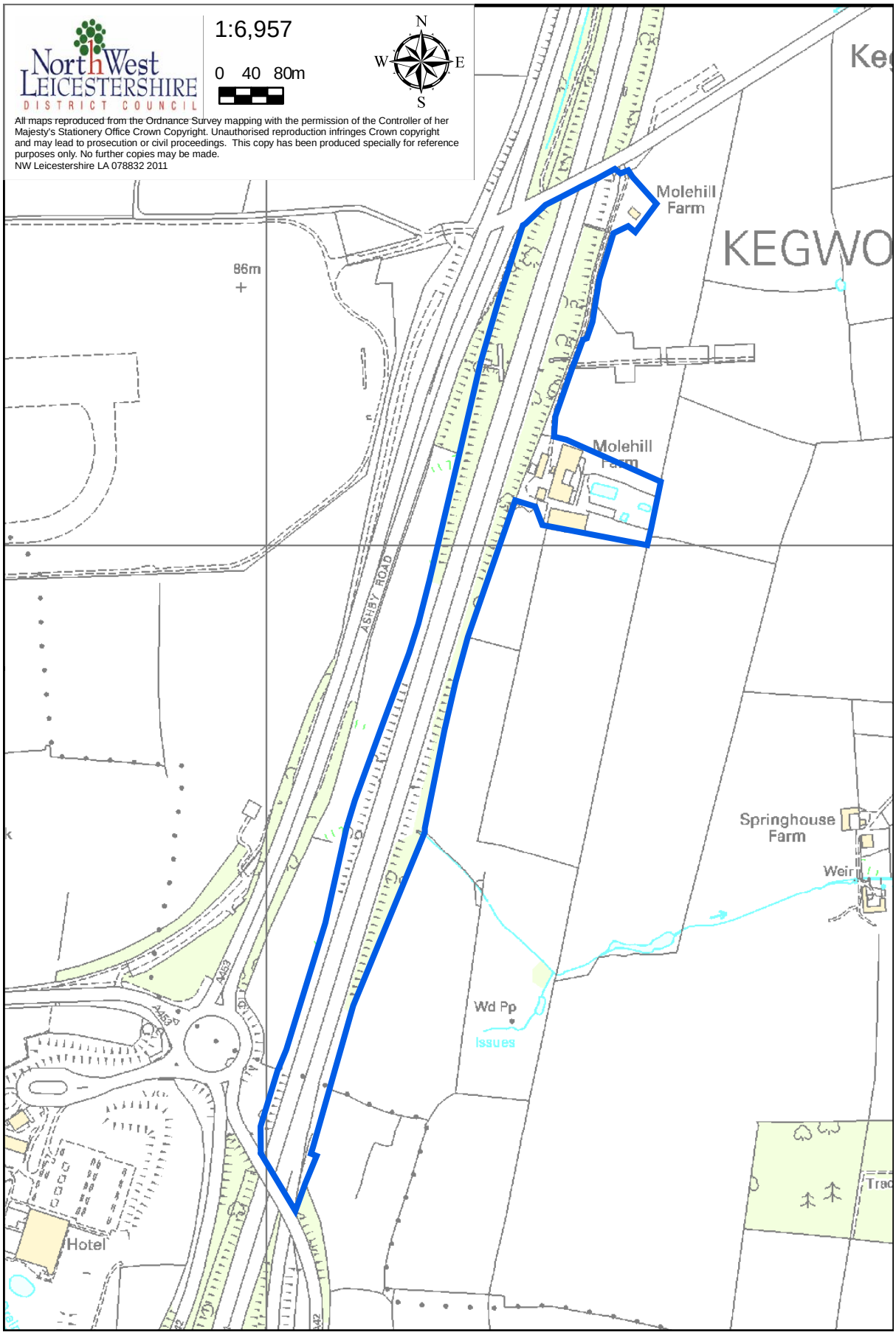


Figure. 4. Castle Donington Air Quality Management Area

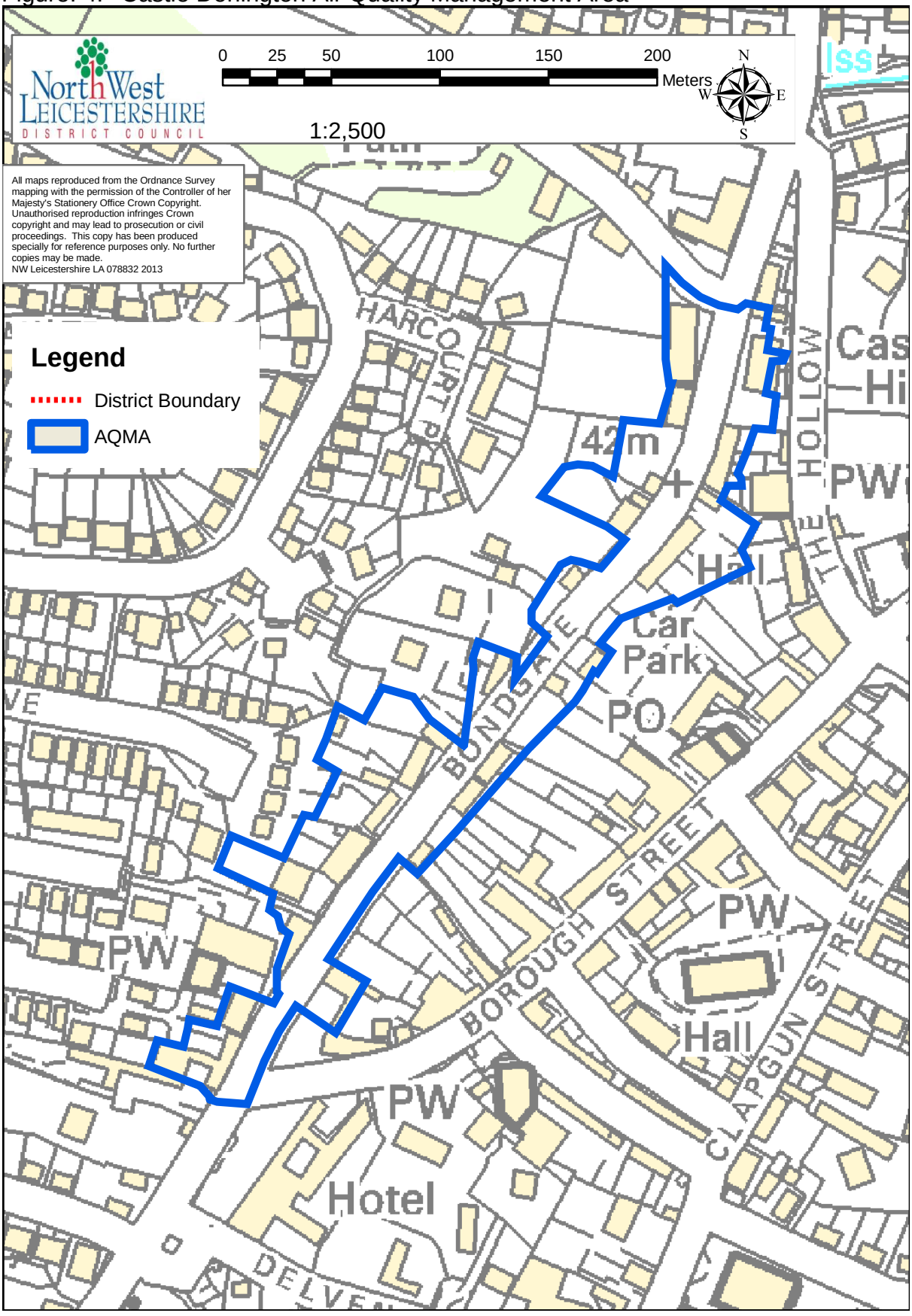


Figure. 5. Coalville Air Quality Management Area (Broom Leys Junction)

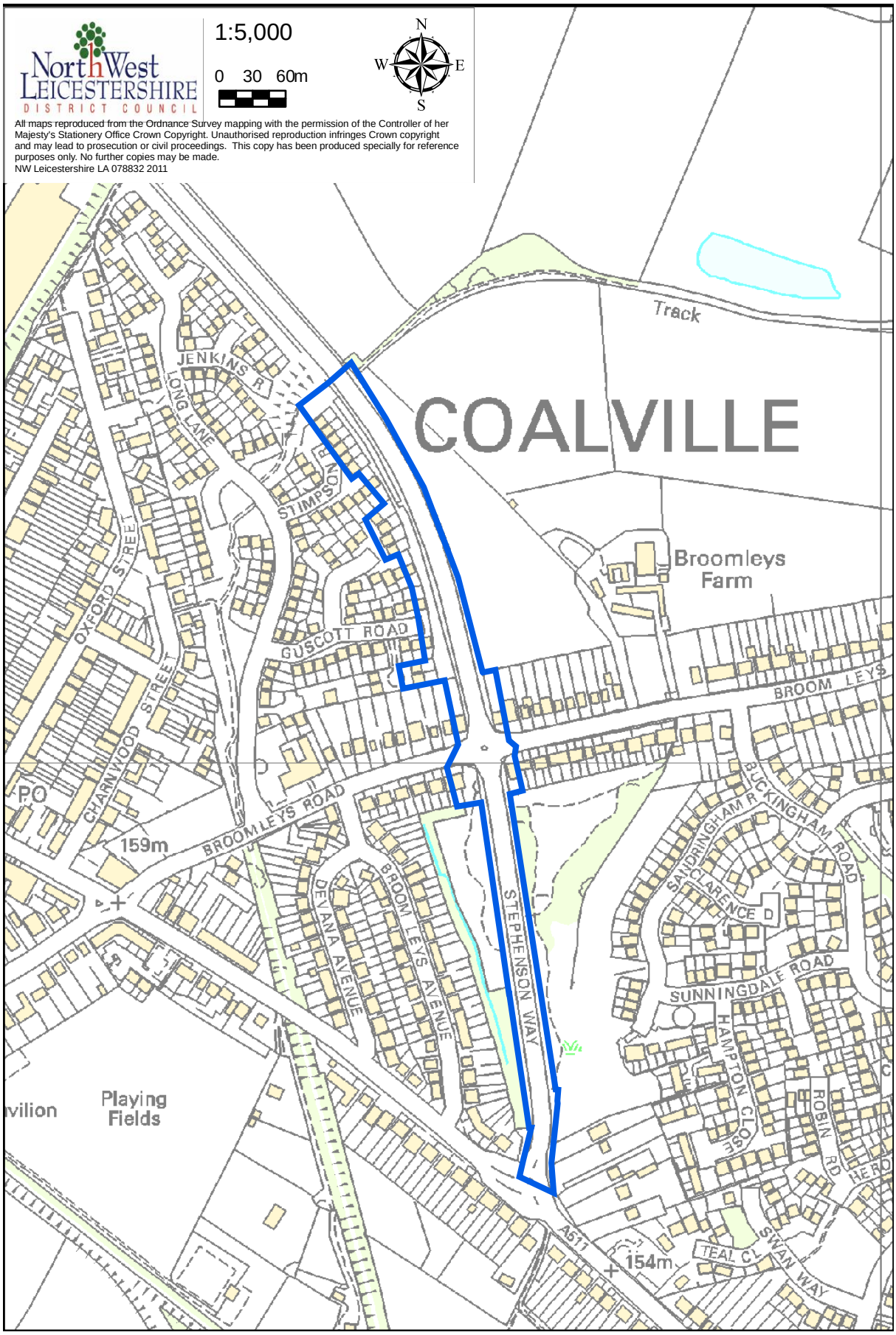
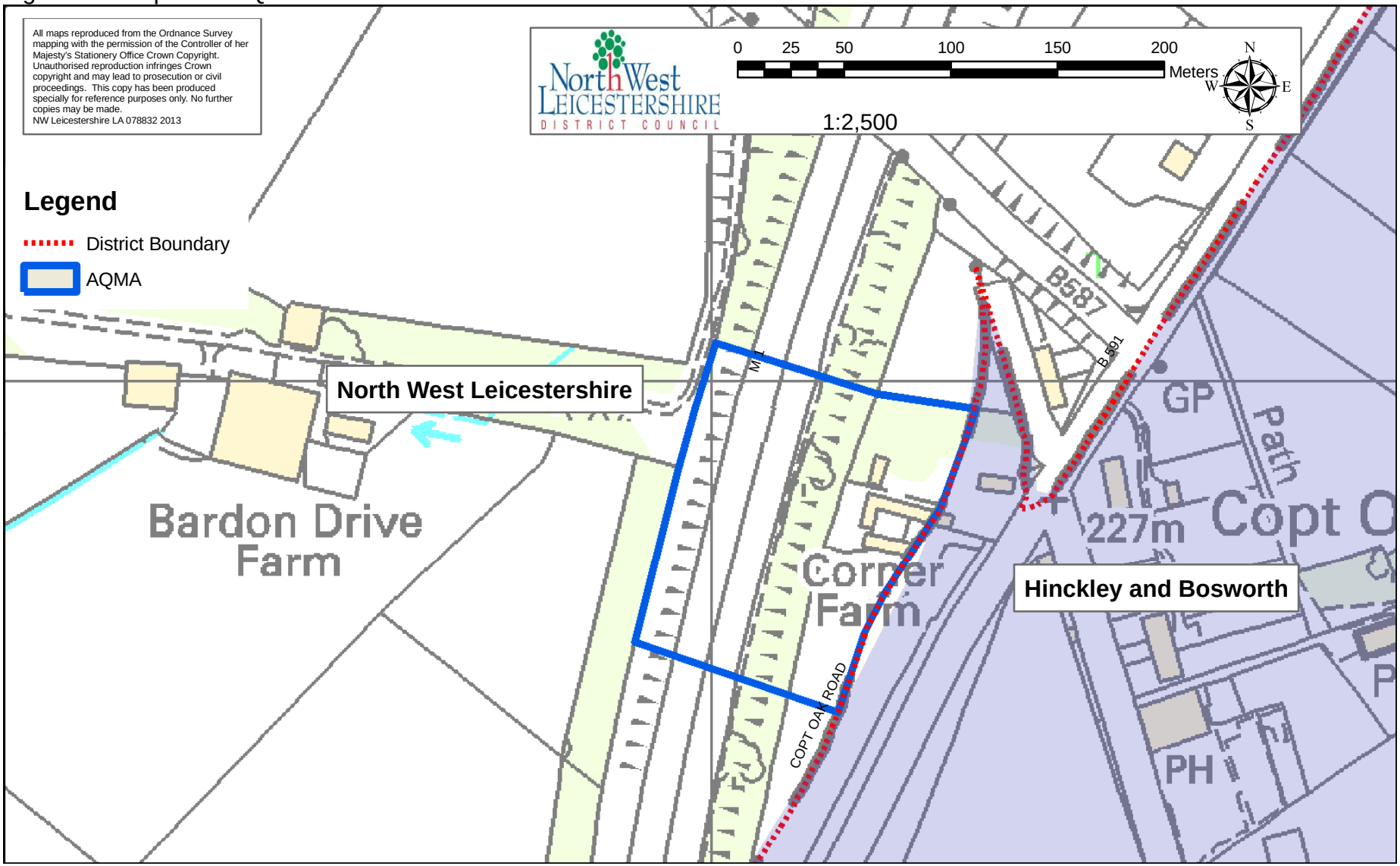


Figure. 6. Copt Oak AQMA



1.7 European and National Policies to Reduce Pollution

There are a number of European and National policies that are expected to contribute to improving air quality. These include tighter emission standards for new vehicles and additional controls over certain industrial processes. Some of the relevant policies are summarised below.

Table 2. European and national policies to reduce pollution

Policy	Summary
Air Quality Framework and Daughter Directives	The Framework Directive establishes the principle that the European Union can set limit values for specified pollutants. The Daughter Directives set out what those limit values are.
Auto Oil programme	All new vehicles must comply with stringent emission standards. There are also controls over fuel quality, which also reduce emissions.
Acidification strategy	This is a strategy which aims to reduce areas at risk of acid rain by reducing emissions of SO_2, NO_x, and ammonia. It consists of a directive which limits the sulphur content of liquid fuels and emission limits for new large combustion plant and a national limit for total SO_2 emissions from existing plant.
EC Solvents Directive	This aims to reduce emissions of volatile organic compounds from certain industrial installations.
Integrated Pollution Prevention and Control Directive	This limits emissions from certain industrial installations, requiring them to take steps to ensure that EC objectives are met. Many of these processes are already controlled under national legislation (Environmental Protection Act 1990, Environmental Permitting Regulations 2010).
UNECE convention on long range transboundary air pollution	This aims to reduce the impact of transboundary pollution from one country to another by requiring emission reductions. It covers heavy metals, including cadmium, lead and mercury as well as some of the pollutants with objectives in the national air quality strategy.
Planning framework	The land use planning system and the transport framework are expected to have regard to the national air quality strategy.

Although air quality is expected to improve as a result of these initiatives, local action will also be necessary to reduce pollution in North West Leicestershire District to meet the levels set in the Governments air quality objectives.

1.8 Links to other Plans and Strategies

The Air Quality Action Plan is clearly linked to other important areas of work including the Local Transport Plan, development planning, energy

conservation, community plans and environmental. Some of the key strategies and policies are given below:

1.8.1 Local Transport Plan 3

Air Quality forms a key issue in 2 sections of the Local Transport Plan 3 (LTP3)

- Chapter 6: Encouraging active and sustainable travel
- Chapter 10 Managing the impact of our transport system on quality of life

LTP3 states it will be important to develop a better and more robust understanding of how the transport system impacts on air quality. In doing so, the Leicester County Council (as the Highway Authority) will continue to work with the district councils, who are responsible for monitoring air quality, and use modelling tools to examine future scenarios. This will enable the Highway Authority to take a more evidenced-based approach to identifying potential solutions that are likely to lead to improvements in air quality within Air Quality Management Areas (AQMA's) across the county

1.8.2 Local Development Framework

North West Leicestershire District Council has yet to adopt its core strategy. The Core strategy is a strategic document setting out the vision and spatial planning framework for the District. It contains core strategic policies that provide for the development needs of the District.

Air quality forms a key Issue within the Draft Core strategy

2 Current state of the AQMAs

2.1 Kegworth

Exceedences of the annual mean Air Quality Standard (AQS) for NO_2 has been variable since 2004. Some monitoring locations have been significantly below the AQS in some years, been at or around the AQS in some years and significantly exceeded the AQS in some years. It is currently unknown if the AQS is being exceeded north of location 20N due to the distance of receptors from the road and a lack of monitoring data in this area, the council has installed new monitoring locations in the area to investigate this.

2.2 Castle Donington

The council has recently reduced the extent of the AQMA as a large proportion of the AQMA was not exceeding the annual mean AQS for NO_2. It appears that the main issues are next to the southbound carriage way where the properties are closer to the kerb (<1m) and traffic tends to queue back from the Bondgate | High Street | Park Lane crossroads. This is evidenced by the monitoring location on the façade of 34 Bondgate which has exceeded the AQS in all years since 2007

The properties on the northbound side of the carriageway are set further away from the kerb (>2m). Concentrations also appear lower at monitoring locations adjacent to the northbound carriage when compared to the southbound carriage way

2.3 Coalville

The AQMA is declared for exceedences of the annual mean AQS and hourly mean AQS for NO_2.

Exceedences of the annual mean AQS have been sporadic since 2004 at all tube locations with the AQMA.

The automatic monitor located outside 21 Broomleys Road recorded more than the permitted number of exceedences of the hourly mean AQS in 2010 and 2011.

The council has procured a traffic survey of the junction to further investigate the cause of the exceedences.

2.4 Copt Oak

The council has recently reduced the extent of the AQMA as a large proportion of the AQMA was not exceeding the annual mean AQS for NO_2. Due to the location of the Corner Farm relative to the M1 the council has been unable to ascertain if the AQS is being exceeded at Corner Farm as predicted by modelling. If the AQS is being exceeded at Corner Farm it is a result of traffic on the M1

2.5 M1 Mole Hill Kegworth

The AQMA is declared for exceedences of both the annual mean AQS and hourly mean AQS for NO_2.

A monitoring location on the façade of Molehill Farm House has been close to the annual mean AQS in most years and exceeded the annual mean AQS in 2005, 2009 and 2010.

Monitoring locations near to Molehill Farm House, which are now discontinued, recorded annual means in excess of 60µgm^{-3} in 2006, 2007, 2008, 2009 and 2010; in line with Paragraph 5.17 of the technical guidance[39] the council has assumed that the 1-hour mean objective is being exceeded

Table 3. Overview of Diffusion Tube Data

Tube location		Location Type	Grid Reference		Pollutant monitored	In AQMA ?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location ?	Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
											BAF (unless otherwise stated)	0.98	1.1	1.01	0.99	0.94	0.9	1.06	1.06	0.91
06N	Broomleys Junction (1)	Roadside	443660	314002	NO_2	Y	N	5.8	2	Y			45.76	37.57	38.23	39.63	39.37	43.77	39.66	41.18
08N	End Cottage Copt Oak	Rural	448138	313012	NO_2	N	N	0	N/A	N						29.90	29.02	33.76	31.27	30.94
09N	Whitwick Rd Copt Oak	Rural	448120	313066	NO_2	N	N	N	N/A	N		35.23	44.49	40.11	45.12	41.58	42.68	48.06	42.22	42.16
12N	Aeropark	Other	444013	326288	NO_2	N	N	N	N/A	N		19.32	21.12	18.36	18.02	18.10	17.44	28.36	21.68	22.37
14N	69 High Street Castle Donington	Roadside	444211	326781	NO_2	N	N	0	2.9	Y					38.26	36.36	25.42	33.14	29.33	28.36
16N	Bondgate Castle Donington crossroads	Roadside	444451	327233	NO_2	N	N	7.5	1	Y					38.26	34.01	33.46	42.10	33.44	35.57
17N	13 Bondgate Castle Donington	Roadside	444512	327335	NO_2	Y	N	2	2.5	Y		36.59	40.64	35.91	38.38	34.01	33.61	44.69	36.13	37.23
18N	34 Bondgate Castle Donington	Roadside	444580	327410	NO_2	Y	N	0	2.3	Y					42.25	47.83	43.94	57.88	59.07	49.22
19N	94 Bondgate Castle Donington	Roadside	444705	327602	NO_2	Y	N	0.8	1.4	Y						35.12	29.78	41.14	35.95	34.43
20N	Derby Road Kegworth	Roadside	448523	326885	NO_2	Y	N	3.2	1	Y			37.45	36.16	39.87	33.79	35.69	43.18	33.48	35.16
22N	Keg A6 2	Roadside	448783	326656	NO_2	Y	N	0	2.3	Y					43.80	38.78	36.95	46.50	38.64	35.95
23N	EMA 120 Whatton Road Kegworth	Suburban	448103	326275	NO_2	N	N	n	n/a	N		26.42	29.08	22.07	27.55	23.54	18.75	27.82	24.19	24.80
26N	Molehill Farm House	Roadside	447457	326421	NO_2	Y	N	0	50	Y			40.00	39.70	39.91	35.30	40.64	41.29	36.13	37.08
31N	Sinope	Roadside	440167	315264	NO_2	N	N	7.8	3.2	Y		28.51	32.67	28.22	32.20	29.64	30.44	37.89	38.78	36.70
32N	M1 Bridge Copt Oak	Other	448082	313100	NO_2	N	N	N	N/A	Y							58.28	71.21	50.79	50.55
33N	Monitoring station Copt Oak (1)	Other	448124	313048	NO_2	N	Y	N	N/A	Y								38.76	31.18	18.45
34N	Monitoring station Copt Oak (2)	Other	448124	313048	NO_2	N	Y	N	N/A	Y								40.16	28.27	18.45
35N	Monitoring station Coalville (1)	Roadside	443629	314028	NO_2	Y	Y	5.8	2	Y								48.90	39.32	35.95
36N	Monitoring station Coalville (2)	Roadside	443629	314027	NO_2	Y	Y	5.8	2	Y								47.90	31.62	40.45
37N	Monitoring station CD (1)	Roadside	444532	327363	NO_2	Y	Y	0	1	Y								42.57	38.16	37.01
38N	Monitoring station CD (2)	Roadside	444532	327363	NO_2	Y	Y	0	1	Y								43.44	35.51	37.40
39N	New M1 Long Whatton	Other	446950	323750	NO_2	Y	N	N	N/A	N								34.35	31.91	29.62
40N	35 High Street Castle Donington	Roadside	444323	326975	NO_2	N	N	3	0.9	Y									27.52	31.02
41N	18 High Street Castle Donington	Roadside	444414	327171	NO_2	N	N	4	1	Y									37.67	39.71
42N	lamppost A511 W of Broomleys junc	Roadside	443613	314114	NO_2	Y	N	16	1.9	N									41.07	38.77
43N	Direction Sign Bardon Rd/A511 RBT	Roadside	443675	313642	NO_2	Y	N	2.4	3	N									33.47	32.26
44N	Copt Oak crossroads	Roadside	448147	312961	NO_2	N	N	3	2.3	N									36.51	37.16
45N	Outside Corner Farm Copt Oak	Roadside	448119	312920	NO_2	Y	N	27	4.3	N									38.79	35.41
46N	PO Derby Road Kegworth	Roadside	448724	326702	NO_2	y	N	0	1.3	Y									44.12	42.52
47N	12 Derby Rd Kegworth	Roadside	448639	326805	NO_2	y	N	4.7	2.5	Y									32.86	43.59
48N	28 London Road Kegworth	Roadside	448792	326533	NO_2	y	N	0.8	1.5	Y									45.15	40.19
49N	Hugglescote crossroads	Roadside	442562	312823	NO_2	N	N	4.1	2.5	y										27.02
50N	10 Central Road Hugglescote	Roadside	442578	312871	NO_2	N	N	5.4	1	y										27.96

	annualised mean (see box 3.2 of LAQM.TG(09))[39]
	no monitoring data
XXXX	Value exceeds Annual Mean Air Quality Standard
XXXX	Value exceeds 36µgm^{-3}

3 Review of previous Action Plan

The last action plan included several ‘community’ schemes that were completed however due to the limited area of the AQMAs. These types of schemes do not directly affect the various AQMAs and are more appropriate to large scale “town wide” AQMAs such as Leicester City or Rugby.

The action plan included one scheme that would directly affect the Kegworth AQMA. The Action Plan proposed a major road scheme which included a bypass around Kegworth. The Kegworth Bypass is a scheme that the Highways Agency was taking forward as part of its proposed M1 improvements. It was originally an integral part of the M1 widening proposals between Junctions 21-30 to be completed during the 3rd LTP period. However, in January 2009 it was announced that instead of adding extra lanes, the stretch of the M1 between Junctions 23a – 25 will be altered to allow the hard shoulder to be used as an extra lane during peak hours, and widening between Junctions 21-J23a will not be taken forward. In the longer-term, the Kegworth Bypass may still be delivered through the planning application for the delivery of a Strategic Rail Freight Interchange at Castle Donington.

The Action Plan did not directly address any of the other AQMA’s in the district many of which were declared after the Action Plan was written.

An overview of the action plan and the progress against those actions is included in Table 4

Table 4. Progress against previous action plan objectives

	Actions	Details	Stake-holder	Completion Date	Progress
Reducing Vehicle Emissions					
1	Undertake roadside vehicle emission testing	North West Leicestershire District Council will re-evaluate the viability of the resumption of vehicle emission testing.	NWLDC	Completed	Vehicle Emission Testing undertaken in early 2006. Low uptake at voluntary testing days. Unviable to continue.
2	Improve the Council Fleet	North West Leicestershire District Council will continue to favour low emission vehicles in its own fleet.	NWLDC	Completed	New refuse vehicles fitted with hydraulic system controls (known as "oil on demand") which controls engine revs and reduces fuel consumption. New Limiters fitted to fleet, Route optimisation undertaken
3	Reduction in speed	Reduction in speed limit to optimum for NOx emissions from vehicles using the M1	HA	2005 – 2011	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.
4	Discourage drivers from allowing their engines to idle unnecessarily when parked	The Council will carry out campaigns to raise awareness and to discourage drivers from allowing their engines to idle when their vehicles are parked for prolonged periods	NWLDC	Completed 2006	Enforcement under The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 has been carried out and fixed penalties have been issued. Carried out in 2006
Improving the Road Network to Reduce Congestion					
5	Use of Hard Shoulder	Use of hard shoulder on M1 during periods of congestion – crawler lanes	HA	2005-2011	Dependant upon the results of the M40 study.
6	Access Closure	Closure of side roads and rerouting of local traffic around Kegworth Junction 24 of the M1	HA	2005-2011	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.
7	Improved signing	Improved signing on the M1 to reduce congestion	HA	Completed	Advance notification of miles/time information to reduce congestion is now regularly available
8	Use of physical barriers	Use of physical barriers to obstruct the air flow and reduce noise to neighbours	HA	2005 – 2011	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.

	Actions	Details	Stake-holder	Completion Date	Progress
9	New Road Proposals	A bypass to be built for the A6 through Kegworth	LCC HA	2011	The Kegworth Bypass is a scheme that the Highways Agency was taking forward as part of its proposed M1 improvements. It was originally an integral part of the M1 widening proposals between Junctions 21-30 to be completed during the 3rd LTP period. However, in January 2009 it was announced that instead of adding extra lanes, the stretch of the M1 between Junctions 23a – 25 will be altered to allow the hard shoulder to be used as an extra lane during peak hours, and widening between Junctions 21-J23a will not be taken forward. In the longer-term, the Kegworth Bypass may still be delivered through the planning application for the delivery of a Strategic Rail Freight Interchange at Castle Donington.
10	Introduction of high occupancy lanes	Introduce high occupancy vehicles lanes along the M1 to reduce congestion	HA	2005 – 2010	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.
11	Widening of the M1	Widening of the M1 and/or A543	HA	2005 – 2010	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.
12	Improvements to Junction 24 of the M1	Improvements to Junction 24 of the M1 to reduce congestion in the area	HA	2005 – 2010	Will be reviewed as part of the options appraisal for Phase 2 of the M1 Improvement Programme.
Using Area Planning Measures to Reduce Traffic Volumes					
13	Consideration of air quality in respect of Planning Applications	When assessing Planning Applications the implications of new development for air quality will be taken into consideration	NWLDC	Completed ongoing	All planning applications are assessed for possible air quality implications.
Reducing Air Pollution From Industry/Commerce and Residential Areas					

	Actions	Details	Stake-holder	Completion Date	Progress
14	Control of Industrial Emissions	The Council will regulate industrial processes under Part 1 of the Environmental Protection Act 1990. In addition the Council will continue with its programme of searching for additional industrial premises which require a permit.	NWLDC	Ongoing	The Council regulates 80 Part B installations for emissions to air and 5 A2 installations for emissions to land, air and water. Since 1st January 2006 4 installations have been found to be operating without a Permit and fines have been issued.
15	Emissions from chimneys	The Council will continue to enforce the provisions of the Clean Air Act 1993 with respect to emissions of smoke from chimneys across the District	NWLDC	Ongoing	The Council has investigated 7 alleged breaches of the Clean Air Act 1993 with respect to emissions of smoke from chimneys since 1st January 2006.
16	Boiler Plant and Chimney Heights	The Council will enforce the provisions of the Clean Air Act 1993 in respect of chimney heights for new plant and smoke control	NWLDC	Ongoing	All LA-IPPC permit applications must include chimney height calculations where appropriate.
17	Control of Bonfires	The Council will enforce the provisions of the Clean Air Act 1993 and Part III of the Environmental Protection Act 1990 in respect to bonfires across the District.	NWLDC	Ongoing	The District Council has investigated 438 garden bonfire complaints since 1st January 2006 TO December 2011. Details of alternative to burning waste are actively promoted by the District through its' discounted compost bin scheme. Investigated 64 complaints of smoke nuisance in 2011
Changing Levels of Travel Demand / Promotion of Alternative Modes of Transport					
18	Improving access to information	The Council will work with partners to encourage Travel Plans for employers and schools	NWLDC LCC	Ongoing	The Council has yet to adopt a Green travel plan, however the council has implemented several schemes to promote greener travel under The Green Footprints Corporate Action Plan
19	Improved public transport network	The Council will work closely with the County Council within LTP2	NWLDC LCC	Completed	A new railway station has opened at Ratcliffe-on-Soar linking to the airport with bus services.

	Actions	Details	Stake-holder	Completion Date	Progress
20	School 'Walking Buses'	The Council will work with Leicestershire County Council to promote walking buses for local schools within LTP2	NWLDC LCC	Ongoing	In October 2006 School children in Ashby-de-la-Zouch set a world record for the largest walking bus.
21	Safer routes to Schools	The Council will work with Leicestershire County Council to promote safer routes to Schools within LTP2	NWLDC LCC	Ongoing	Four scheme locations have been identified for traffic calming, footpath improvements and crossings.
22	Introduce Car Parking Charges	Car Parking will be introduced to all Council owned car parks in the District	NWLDC	Completed - Enforcement Ongoing	Car parking charges have been introduced where deemed appropriate and greater enforcement implemented following decriminalisation
23	Improved public transport network to East Midlands Airport	The Council will work with its partners to improve the public transport network to the Airport	NWLDC EMA LCC	Completed	A new railway station has opened at Ratcliffe-on-Soar linking to the airport with bus services. Coalville is already linked by a bus service launched in 2007. Cycle Activated Traffic Signs (CATS) Crossing at East Midlands Airport that opened in September 2006. The cycle crossing, developed and delivered jointly by the County Council and East Midlands Airport, enables employees, and those travelling to and from the airport by bicycle on National Cycle Route 15, to cross the busy A453. The pressure sensitive detector pads on the cycle link enable passing cyclists to trigger CATS on the approaches to the crossing. Once triggered, the CATS display a 'slow down' message and flashing amber lights to road traffic. A consistent reduction in traffic speeds of 10% has been achieved, thus providing a safer crossing environment.
Other Measures					

	Actions	Details	Stake-holder	Completion Date	Progress
24	Publicise Air Quality Information on the Website	Utilise the Council's Website to publicise Air Quality information	NWLDC	Ongoing	All monitoring data for Air quality is now available on the council website, along with copies of all review and assessment reports, AQMA orders, detailed assessments and further assessments.
25	Promote home working	Promote home working with the Council for suitable employee's	NWLDC	Completed	Home working promoted for suitable posts. 43 officers have been approved for occasional home working
26	Presentations to Schools	Undertake presentations to Schools highlight Air Quality issues	NWLDC	Completed	Presentations to local schools undertaken in 2007.

4 Creation of Schemes

4.1 Parties involved with creation and assessment of possible modification schemes

In order to ensure that only schemes that are acceptable and likely to result in an improvement in air quality are taken forward, the following people will need to be involved in the creation and assessment of schemes

- From North West Leicestershire District Council
    - Environmental Protection Officer (air quality)
- From Leicestershire County Council Highways Department
    - Traffic and Safety Group Manager
    - Road Safety Team Manager
    - Traffic Management Team Manager
- Highways Agency (when discussing roads under their authority)

4.2 Method

4.2.1 Initial scheme creation

Initially a brainstorming session will be held involving the parties involved in section 4.1 to create several outline schemes which are deemed suitable for further investigation.

4.2.2 Schemes suggested by interested third parties

In order to get community support for schemes it will be necessary to consult relevant third parties such as Town Councils, Parish Councils, members of the public, or local community groups, on created schemes (this is discussed further in section 6) third parties may have ideas of other possible schemes in addition to those thought up by the parties listed in

section 4.1. If a third party wishes to suggest a possible scheme details of the scheme should be emailed to environmental.protection@nwleicestershire.gov.uk .

In order to ensure best use of resources, schemes suggested by third parties will be submitted to the parties outlined in section 4.1 for an initial assessment, based on professional knowledge and experience, to establish the suitability of schemes for further investigation and modelling. This will ensure resources are not used modelling schemes which are unlikely to be acceptable.

If a scheme is found to be unacceptable at this early stage the third party who suggested it will be informed of the reasons for the scheme being rejected for further assessment.

If a scheme is found to warrant further investigation the third party who suggested it will be informed that the scheme is being put forward for further investigation and modelling. Once the final decision as to the appropriateness of the scheme has been made the third party will be informed of the outcome.

4.3 Technical drawing of scheme

Once it has been decided that an outline scheme warrants further investigation and modelling full technical drawings of the scheme will be required for the modelling to be carried out.

4.4 Traffic Modelling

Once technical drawings have been drawn up for the scheme it will be necessary to model the current situation and the proposed changes.

In order to assess the impact that any traffic management measures proposed may have on improving the free flow of traffic, a route-based Paramics model would be required. This model would allow assessment of the route through the town as a whole, including the impact that the existing pedestrian crossings have on traffic movement. Assessment of

the route as a whole would not be possible using traditional modelling assessment techniques (e.g. Linsig for signalised junctions, Arcady for roundabouts) because these only allow for the assessment of individual junctions.

Once traffic modelling has been completed a further look at the acceptability of the scheme on highways grounds should be conducted (see section 5.1 for further details)

4.5 Air Quality Modelling

Once a scheme has been found acceptable on highway grounds, and detailed traffic data is available, it will be necessary to assess the air quality impact of the scheme. This will involve modelling the current situation and creating a correction factor by comparing the current situation modelling data with data from monitoring locations. The correction factor can then be applied to the proposed scheme modelling data. The use of the correction factor will reduce the margin of any potential over/under estimate of nitrogen dioxide levels.

By comparing the current situation modelling data with proposed scheme modelling data, an estimate of the impact of the scheme can be made.

5 Detailed Evaluation of schemes

In accordance with the government guidance, the measures short-listed for inclusion within the action plan will be assessed against a wide range of criteria in order to assess their suitability for inclusion within the plan and enable suitable measures to be prioritised. At this stage a number of measures are still in development, and it is likely that as these measures are further defined their contribution to the plan will require to be assessed in further detail. The criteria against which options are to be assessed:

- Suitability of schemes on highways grounds
- Potential air quality impact;
- Implementation costs;
- Cost-effectiveness;
- Potential co-environmental benefits, risk factors, social and economic impacts;
- Feasibility and Acceptability.

The following paragraphs outline how the assessment will be undertaken.

5.1 Suitability of schemes on highways grounds

All traffic management interventions will be a assess against the aims and objectives of the Local Transport Plan 3 (LTP3). The aims that relate directly to action planning are listed below, along with the specific areas relating to them that will be considered when assessing requests for traffic management work:

1. Improve Road Safety
    - Seek to deliver a safer road environment for all road users;
    - Seek to manage vehicle speeds;
    - Improve road safety for vulnerable road users, including motorcyclists, pedestrians and cyclists
2. To support the Economy and Population Growth
    - Improve the management of the network to secure effective and reliable traffic movement;
    - Support the efficient and safe movement of freight;

- Support the economies of our market towns and rural areas;
- Work with others to limit the potential transportation impacts of population growth on the efficient and reliable operation of our transportation system;
- Work to support economic development and tourism in Leicestershire.

3. To manage the impact of our transport system on health and quality of life of the community
   - Seek to ensure that the existing transport system operates as efficiently as possible;
   - Seek to reduce traffic noise;
   - Seek to concentrate goods vehicles on the most suitable routes available;
   - Seek to reduce the impact of traffic on communities;
   - Work with planning authorities to improve town centres where possible.

5.1.1 Work Programme

A work programme will be set up in advance of each financial year, reflecting the priorities of the requests accepted and the budget available for that year. The work programme will also take due regard of the physical location of the proposed works, in order to optimise deployment of resources when the measures are implemented.

5.2 Potential Air Quality Impact

This is a key assessment in that the AQAP must focus on prioritising options that improve air quality most effectively. The assessment is complex in that the detailed assessment of any given option could normally be subject to a study of its own requiring significant resources. A semi-quantitative assessment relying on a level of judgement has been adopted. The method used is outlined below:

1. The description of the option and the proposed change to be brought about by the option is used alongside source apportionment analysis

to define what proportion of road transport emissions would potentially be affected by the option.

2. A view is then expressed on how much of the traffic would actually be changed by the option.
3. The proportion of emissions potentially affected by the option and the view on how far they could be changed by the option are combined to express a view on how much transport emissions may be reduced in the AQMA due to the option.
4. A view is then expressed on how significant this change in emissions would be in terms of making progress towards the air quality standard in the AQMA.

For the purpose of the AQ assessment the result of the realistic intervention has been assessed as having a potentially:

- **Zero** local AQ benefit if the realistic intervention is 0% or worse;
- **Small** local AQ benefit if the realistic intervention is 1%;
- **Medium** local AQ benefit if the realistic intervention is 2-5%;
- **Large** local AQ benefit if the realistic intervention is >5%.

5.3 Implementation Costs

The potential implementation costs of each option are assessed as follows:

- **Cost neutral** (measure can be implemented through existing plans/ programmes)
- **Low costs** (up to £20k annually e.g. for small surveys or campaigns or other options using current resources)
- **Medium costs** (up to £60k annually e.g. for a full time officer and resources)
- **High costs** (up to £200k annually e.g. for small traffic management schemes)
- **Very high costs** (above £200k annually e.g. for new infrastructure)

5.4 Cost-Effectiveness

The effectiveness of each measure in improving air quality is compared to the implementation costs in the matrix presented in Table 5.

Table 5. Cost benefit analysis matrix

AQ Benefit / Cost	Score	Zero	Small	Medium	Large
Score		0	1	2	3
Neutral	5	0	5	10	15
Low	4	0	4	8	12
Medium	3	0	3	6	9
High	2	0	2	4	6
Very high	1	0	1	2	3

In this table the assessed implementation costs and potential air quality impacts have been given a weighted score. The product of the weighted scores for each option is calculated. The results can be interpreted as follows:

- If the product is **high** (10 or more) then the measure is more cost-effective (significant impacts for the cost involved) and perhaps favourably cost-effective;
- If the product is **medium** (between 5-9) then the measure is in the **medium** range of cost-effectiveness;
- If the product is **low** (4 or less) then the measure is less cost-effective (small impacts for the cost involved) and perhaps unacceptably poor in cost-effectiveness terms.

This method only estimates the *relative* cost-effectiveness of options rather than their *absolute* values. The method is useful during discussions of the relative priority of different options. The final cost-effectiveness value is sensitive to changes in the assumptions of how effective a measure might be in reducing emissions and how costly it is.

5.5 Potential Co-environmental Benefits

In the assessment other environmental benefits will be highlighted.

- Greenhouse gases: The likely effect on greenhouse gas emissions is assessed as being an overall reduction or a local reduction perhaps with emissions being relocated elsewhere.
- Noise.

Without detailed information on the true impacts of the options these assessments rely on judgement.

5.6 Potential Risk Factors

The assessment will highlight risk factors. These may be looked at more closely within a Strategic Environmental Assessment of any measure implemented. At this stage it will simply highlight whether or not it is likely that the measure would:

- Relocate emissions and hence lead to worsening air quality elsewhere;
- Require a change in land use;
- Place limits on pace of development, or increase costs of development significantly.

Without detailed information on the true impacts of the measures, these assessments rely on judgement.

5.7 Potential Social Impacts

The assessment will highlight potential social impacts. These may need to be examined more closely when developing the options further. At this stage it is simply highlighting whether or not it is likely that the option would potentially:

- Provide health benefits in terms of lower exposure to pollutants or increased mobility;
- Increase road safety;
- Improve accessibility.

Without detailed information on the true impacts of the options these assessments rely on judgement.

5.8 Potential Economic Impacts

The assessment will highlight potential economic impacts. These may need to be examined more closely when developing the options further. At this stage it will simply highlight whether or not it is likely that the option would potentially:

- Influence sustainable development or accessibility;
- Reduce or increase overall travel time;
- Place additional requirements on operators.
- Reduce or increase tourism/trade in the area

5.9 Feasibility and Acceptability

Each option will be assessed for its feasibility against three simple criteria. These are whether the authority has:

- The executive powers under existing legislation to implement and enforce a measure. Alternatively, whether the authority has an existing mechanism to influence other agencies to implement a measure;
- Secured funding for the measure or a straightforward route for securing funding;
- Characterised the potential positive and negative impacts of the measure with sufficient evidence or confidence to make a decision to implement the measure.

Table 6 sets out the criteria adopted for defining the option as being feasible over the short, medium or long term, or as being unfeasible. Each option is assessed against each criterion. The final feasibility timeframe is defined according to which of the three assessments results in the longest of the four possible terms (short, medium, long or unfeasible). For example, an option for which powers are clear and for which impacts are well characterised but for which funding will be difficult to obtain would be assessed as feasible over the long term.

Table 6. Feasibility matrix

Feasible in the:	Authority has the powers	Funding secured	Potential positive and negative impacts are well characterised
Short term (1-2 years)	Yes, clearly defined and already exercised	Yes potentially straightforward	Yes
Medium term (3-6 years)	Yes but novel or with an element of uncertainty	Yes with forward planning	Not without further study
Long term (>6 years)	Highly uncertain	No or extremely difficult	Not without further study
Unfeasible	No	Will never attract funding	Hard to characterise and with high risks

In relation to the acceptability, a preliminary judgement is expressed on how acceptable each option might be to stakeholders according to the following criteria:

- The option is considered potentially acceptable if: the option is unlikely to compel people to change behaviour or increase their costs significantly or at least some level of behaviour change or personal costs are required but the scheme is overall consistent with community policies;
- The option is considered potentially unacceptable if: unacceptably intrusive changes in behaviour or large personal costs would be incurred.

Final judgements on acceptability will necessarily rest with the elected Council members.

6 Consultation

The council is required by the Local Air Quality Management Policy Guidance (LAQM.PG.(09)) to consult stakeholders on how it will address the air quality issue.

In order to gather the opinions of appropriate stakeholders the following organisations will be directly consulted both on this document on proposed schemes

- Castle Donington Parish Council
- Kegworth Parish Council

- Hinckley and Bosworth Borough Council
- North Warwickshire District Council
- Litchfield District Council
- South Derbyshire District Council
- Erewash Borough Council
- Rushcliffe Borough Council
- Environment Agency

It will also be necessary to get the views of businesses and residents located within the AQMAs and businesses and residents from the local area who utilise the road traffic network. Due to the number of people and organisations within this group it will not be possible to consult each individually. The consultation documents will be placed on the councils website and paper copies will be placed with the parish councils and libraries who's areas contain AQMAs'. Notices will be placed within the AQMA to inform the public and local businesses that a consultation is open.

7 Funding Options

The most appropriate funding sources will be addressed on a scheme by scheme basis but will include the following

7.1 Leicestershire County Council Highways Road Maintenance/improvement Budget

Some low cost minor schemes such as alteration of traffic lights / crossings etc, may be suitable for funding through Highway maintenance or improvement budget

7.2 Section 106 agreements (S106)

This is money that developers of larger sites pay to the council to reduce the impact of the development. Developers sign a S106 agreement as part of their planning permission. This is a legal document that specifies what the money is spent on and where. If larger developments are found to impact on air quality by their Environmental Impact Assessments it will be possible to require the developer to fund schemes found suitable.

7.3 Community Infrastructure Levy

The Community Infrastructure Levy (CIL) is a new levy that local authorities can choose to charge on new developments in their area. The money can be used to support development by funding infrastructure that the council, local community and neighbourhoods want.

7.4 Local Sustainable Transport Fund

Local Sustainable Transport Fund (“the Fund”) to help build strong local economies and address the urgent challenges of climate change. It reflects the Government’s core objectives of supporting economic growth by improving the links that move goods and people and meeting its commitment to reducing greenhouse gas emissions.

8 Time Frame for implementation

In order that the aims highlighted above can be met, it is necessary to have realistic objectives set. Where relevant, target dates for each of the objectives will be set. The completion and publication of the Action Plan Framework is a significant milestone and the review process incorporated in the strategy will ensure that the strategy remains effective in achieving these aims.

Table 7 sets out the actions required in order that the inspection of the land in North West Leicestershire District is carried out in accordance with the published aims and objectives. These objectives will be monitored by the Street Action Team team plan.

Table 7. Initial Implementation timescale

Task	Target Date
Initial meeting to outline schemes for further assessment	April 2014
Draw up full technical drawings of outline schemes	November 2014
Modelling of outline schemes	April 2015
Decision on feasibility of modelled schemes	July 2015
Define most appropriate funding methods and estimate timeframe for implementation of schemes found to be feasible	October 2015

9 References

9.1 Previous Review and Assessment Reports

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