Nuneaton & Bedworth
United to Achieve

Nuneaton & Bedworth Borough Council

Local Air Quality Management – Draft Air Quality Action Plan

August 2011

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Executive Summary

This Air Quality Action Plan is the culmination of the Local Air Quality Management (LAQM) review and assessment for Nuneaton & Bedworth Borough Council (N&BBC). The process of LAQM review and assessment has been set down in Part IV of the Environment Act 1995, which forms part of the Government's response to European Directives on Air Quality to which the UK Air Quality Strategy responds.

Nuneaton & Bedworth Borough Council undertook their first round of review and assessment between 1998 and 2001, concluding that all air quality objectives were expected to be met by the target dates based on available information at that time.

The second round of review and assessment culminated to the declaration of an Air Quality Management Area (AQMA) at the A47 Leicester Road Gyratory in Nuneaton in March 2007 for nitrogen dioxide (NO_2), following the conclusions a Detailed Assessment based on air quality monitoring and pollutant dispersion modelling.

Subsequent annual air quality progress reports identified another potential exceedence of the NO_2 annual mean objective in Corporation Street / Midland Road. A Detailed Assessment confirmed the monitoring results, and a second AQMA was declared in October 2009.

The A47 Leicester Road Gyratory is currently an important strategic route into and out of Nuneaton, and will remain so for the foreseeable future due to the constraint of having only one railway bridge crossing in the town centre. It already operates at capacity at certain times of the day and this pressure is likely to intensify with anticipated increases in traffic flows in the area due to forthcoming development within the Nuneaton area.

The B4114 Midland Road/Corporation Street approach to the town also carries a significant volume of vehicles to/from a number of residential areas in North West Nuneaton. The use of this corridor is also likely to intensify in the future with the planned redevelopment of the former Judkins Quarry and further regeneration in and around Camp Hill.

This Air Quality Action Plan combines the two AQMAs declared in Nuneaton. In compiling this Action Plan, Government's Technical Guidance LAQM.TG(09), Policy Guidance LAQM.PG(09) and guidance from the Environmental Protection UK (EPUK formerly the National Society for Clean Air) has been referred to, alongside guidance provided by the Department for Environment, Food and Rural Affairs (Defra) through its Air Quality Action Plan Help Desk.

The aim of this Action Plan is to identify how N&BBC will use its existing powers and work together with other organisations in pursuit of the annual mean Air Quality Strategy objective for NO_2 in the AQMAs. The proposed measures are will also positively contribute towards reducing background levels of pollution within the Borough as a whole.

Warwickshire County Council (WCC) is the local Highway Authority, and as such has an important role in the consideration of actions proposed for the AQMAs in order to reduce road traffic emissions and achieve the necessary improvements in air quality required. N&BBC will work together with the County Council and other relevant stakeholders to improve air quality within the AQMAs and throughout the Borough.

The measures proposed in the Action Plan are the following:

- N&BBC will work in partnership with WCC to identify and bring forward traffic management improvements in Nuneaton town centre, particularly where they will benefit the two AQMAs.
- N&BBC will work in partnership with WCC to identify measures to reduce the impact of HGV movements within the area.
- N&BBC will work in partnership with WCC and Sustrans to deliver further improvements for pedestrians and cyclists within the area.
- N&BBC will work in partnership with WCC, public transport operators, DfT Rail and Network Rail to implement better integration of public transport in Nuneaton.
- N&BBC will work in partnership with WCC to increase uptake and implementation of School and Workplace Travel Plans.
- N&BBC will continue to develop, implement and monitor its Travel Plan policy
- N&BBC will include planning policies in its Borough Plan that seek to improve air quality and sustainable transport links and to secure travel plan agreements.
- N&BBC will identify specific pieces of infrastructure, required to mitigate the impact of new development on the AQMA, to be included in the Infrastructure Delivery Plan of the Borough Plan.
- N&BBC will encourage developers to take part in pre-application discussions to ensure air quality is considered when formulating a planning application.
- NBBC will develop protocols to decide for planning applications, when air quality will be considered, what considerations will be required and what mitigation measures may be required.
- N&BBC will continue to work with WCC and other partners to deliver improvements in emissions standards, where practicable.
- N&BBC will make details of the Action Plan measures and annual progress reports available on its Website to ensure accessibility to the consultation and implementation process.
- N&BBC will continue to work in partnership with WCC and the Warwickshire district authorities on air quality and travel awareness campaigns to raise the profile of air quality in the Borough and County-wide.
- N&BBC will continue the commitment to undertake local air quality monitoring within the Borough to ensure a high standard of data is achieved to assess against air quality objectives.
- N&BBC will continue to proactively enforce industrial control and nuisance legislation to minimise pollutant emissions from these sources in the Borough.
- N&BBC will continue to work together with Act on Energy (formerly Warwickshire Energy Efficiency Advice Centre) and other partners to promote and implement energy efficiency measures in the Borough.

The proposed actions will help work towards achieving compliance with the NO_2 annual mean Air Quality Strategy objective/ EU Limit Value.

1 Introduction and Aims of the Action Plan

1.1 Description of the Local Authority Area

Nuneaton and Bedworth is the smallest in geographical area (7,898 hectares) of the five districts in Warwickshire, but has the second highest population (120,700 – 2005 mid-year estimate). The Borough is urban in character containing 3 main settlements Nuneaton (78,403 – 2001 census), Bedworth (34,426) and Bulkington (6,303) which are separated by narrow areas of countryside. It has a high density of 1,528 persons per hectare compared with 270 persons per hectare for Warwickshire. This has both advantages and disadvantages – access to services and public transport is very good but there are social and environmental problems associated with the high density of living. The population of the Borough is predicted to grow by 5% between 2005 and 2020.

The main source of air pollution in the Borough is road traffic emissions from major roads, notably the A444, A47, A5 and M6. An Air Quality Management Area (AQMA) was declared in March 2007 along the A47 Leicester Road in Nuneaton town centre where exceedences of the annual mean Objective for nitrogen dioxide (NO_2) were predicted. A second AQMA was declared for NO_2 in October 2009 encompassing an area of Nuneaton from Midland Road to Corporation Street. Other pollution sources, including commercial, industrial and domestic sources, also make a contribution to background pollution concentrations.

1.2 Project Background

The Council has drawn up, with the assistance of Bureau Veritas, a Local Air Quality Management Action Plan for both Air Quality Management Areas within Nuneaton, identified through the second and third rounds of review and assessment of air quality. The Action Plan is required to be undertaken as part of the local authority's statutory duties as defined within Part IV of the Environment Act, 1995.

The two AQMAs cover geographical areas relatively close to each other (within 500m distance), separated by Nuneaton town centre, which justifies the choice to prepare a joint action plan. However, although both AQMA have been declared due to traffic-related emissions that lead to exceedences of the NO_2 annual mean objective, they are not entirely similar. NO_2 concentrations monitored within the Midland Road and Corporation Street AQMA are relatively higher than those measured in the Leicester Road AQMA. The façade of properties is typically 8m from the road centre along Corporation Street, while within 11m – 15m along the A444 Old Hinckley Road.

Bureau Veritas has undertaken previous review and assessment reports for the Council, which includes the Updating and Screening Assessment 2009, the air quality Progress Report 2010 and the Further Assessments of both AQMAs (Leicester Road Gyratory in 2007 and Midland Road / Corporation Street in 2010).

1.3 Legislative Background

The significance of existing and future pollutant levels is assessed in relation to the national air quality standards and objectives, established by Government. The revised

Air Quality Strategy (AQS)[1] for the UK (released in July 2007) provides the over-arching strategic framework for air quality in the UK and contains national air quality standards and objectives established by the UK Government and devolved administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from the Limit Values prescribed in the EU Directives transposed into national legislation by member states.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The Directive 2008/50/EC[2] introduces new obligatory standards for $PM_{2.5}$ for Government but places no statutory duty on local Government to work towards achievement. The Air Quality Standards (England) Regulations 2007[3] came into force on 15th February 2007 in order to align and bring together in one statutory instrument the Government's obligations to fulfil the requirements of the CAFE Directive.

The objectives for ten pollutants (benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide, particulates (PM_{10} and $PM_{2.5}$) ozone and PAHs (Polycyclic Aromatic Hydrocarbons) have been prescribed within the Air Quality Strategy[1] based on The Air Quality Standards (England) Regulations 2007.

Part IV of the Environment Act 1995 places a statutory duty on local authorities to periodically review and assess the current and the future air quality within their area – a process known a Local Air Quality Management (LAQM). The air quality objectives that apply to LAQM are defined in Air Quality Regulations 2000[4] and Air Quality (England) (Amendment) Regulations 2002[5] for seven pollutants benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide, particulates – PM_{10}.

This Action Plan focuses on those pollutants included in Air Quality Regulations for the purpose of Local Air Quality Management, in respect of the key identified pollutant sources affecting air quality within the Council's administrative area – namely nitrogen dioxide and fine particles (PM_{10}). The objectives set out in the AQS for all the pollutants are presented in Table 1 below. The UK Government and the Devolved Administrations have also set new national air quality objectives for $PM_{2.5}$. These objectives have not been incorporated into LAQM Regulations, and authorities have no statutory obligation to review and assess air quality against them.

The locations where the AQS objectives apply are defined in the AQS as locations outside buildings or other natural or man-made structures above or below ground where members of the public are regularly present and might reasonably be expected to be exposed [to pollutant concentrations] over the relevant averaging period of the AQS objective. Typically these include residential properties and schools/care homes for longer period (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives.

[1] The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
[2] Directive 2008/50/EC of the European Parliament and of the Council of 21st May 2008 on ambient air quality and cleaner air for Europe
[3] The Air Quality Standards Regulations 2007, Statutory Instrument No 64, The Stationary Office Limited
[4] The Air Quality (England) Regulations 2000 (Statutory Instrument 928)
[5] The Air Quality (England) (Amendments) Regulations 2000 (Statutory Instrument 3043)

Table 1: Air Quality Objectives included in the Air Quality Regulations for the purpose of Local Air Quality Management in England

Pollutant	Objective	Concentration Measured As	Date to be Achieved by and Maintained Thereafter
Benzene All authorities	16.25 µg/m^3	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 µg/m^3	annual mean	31.12.2010
1,3 Butadiene All authorities	2.25 µg/m^3	running annual mean	31.12.2003
Carbon monoxide Authorities in England, Wales and Northern Ireland only	10.0 µg/m^3	maximum daily running 8-hour mean	31.12.2003
Lead All authorities	0.5 µg/m^3	annual mean	31.12.2004
	0.25 µg/m^3	annual mean	31.12.2008
Nitrogen dioxide [a] All authorities	200 µg/m^3, not to be exceeded more than 18 times a year	hourly mean	31.12.2005
	40 µg/m^3	annual mean	31.12.2005
Particles (PM_{10}) (gravimetric) [b] All authorities	50 µg/m^3, not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 µg/m^3	annual mean	31.12.2004
	18 µg/m^3	annual mean	31.12.2010
Sulphur dioxide All authorities	350 µg/m^3 not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 µg/m^3 not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 µg/m^3 not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

a EU Limit values in respect of nitrogen dioxide to be achieved by 1st January 2010. There are, in addition, separate EU limit values for carbon monoxide, sulphur dioxide, lead and PM_{10}, to be achieved by 2005, and benzene by 2010.

b Measured using the European gravimetric transfer sampler or equivalent.

Where the results of the review and assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high levels of pollution and exceedences of AQS objectives. Section 84 of the Environment Act 1995 imposes duties on a local authority with respect to AQMAs. The local authority must carry out a further assessment and draw up an action plan specifying the measures to be implemented within the AQMA, and the time-scale for doing so, to move towards attainment of the air quality standards and objectives.

Policy Guidance LAQM.PG(09) and Technical Guidance LAQM.TG(09) were published by the Government in 2009, which included guidance on the development of action plans. These guidance documents have been taken into account in development of this Action Plan, alongside guidance provided by the Department for Environment, Food and Rural Affairs (Defra) through its Air Quality Action Plan Help Desk, which provides examples of best practice and an Action Plan appraisal checklist.

1.4 Scope of the Action Plan

Where local authorities have designated AQMAs, they have a duty to produce an Air Quality Action Plan (AQAP). This plan must set out what measures the authority intends to introduce in pursuit of the AQS objectives. The principal aim of the AQAP is to minimise the effects of air pollution on human health within the local authority area using all reasonable measures, within reasonable timeframes and by working towards achieving the AQS objectives and standards. In order to comply with the AQS objectives it may be necessary to include measures beyond the boundaries of the air quality management areas. Some of the measures may also benefit areas not included within AQMAs thereby improving the health of the population in those areas.

The Further Assessment of an AQMA provides the technical backup for the measures to be included within the AQAP. The Plan should refer to the findings of the Further Assessment in terms of source apportionment (i.e. where emissions are coming from) so that action plan measures may be targeted appropriately.

An AQAP must include the following[6]:

- Quantification of the source contributions to the predicted exceedences of the relevant objectives; this will allow the Action Plan measures to be effectively targeted;
- Evidence that all available options have been considered;
- 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, including estimates of the costs and benefits;
- Where possible, quantification of the expected impacts of the proposed measures and an indication as to whether the measures will be sufficient to meet the air quality objectives. Where feasible, data on emissions could be included as well as data on concentrations where possible; and
- How the Local Authority intends to monitor and evaluate the effectiveness of the plan.

The purpose of the Plan is to provide the means through which local authority joint working with relevant stakeholders, such as the County Council and other relevant organisations, can deliver viable measures that will work towards achieving the Air Quality Objectives within the AQMAs. The aim is also to encourage active

[6] Policy Guidance LAQM.PG(09) (2009), Part IV of the Environment Act 1995, Local Air Quality Management, Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland, The Stationery Office

participation in the achievement of action plan measures by consulting the local community and raising awareness of air pollution issues.

Nuneaton & Bedworth Borough Council (N&BBC) has responsibility under Section 84 of the Environment Act 1995 to prepare and submit an Action Plan to the Department for Environment, Food and Rural Affairs (Defra). The Environment Act 1995 does not prescribe any timescale for preparing an Action Plan. However, LAQM.PG09 sets out the expectation from Government for AQAPs to be completed between 12-18 months following the designation of any AQMAs. The prime responsibility for preparing and submitting the AQAP rests with District and Borough Councils. However, there is a requirement on other relevant authorities to identify proposals in pursuit of the AQS objectives within their respective responsibilities and functions.

This draft Action Plan has been developed, in partnership with other relevant bodies, particularly Warwickshire County Council (WCC), to incorporate the localised measures in the AQMAs. The completed Action Plan will be circulated to all relevant authorities and strategic partners and to the members of the public.

1.5 Reporting of Action Plan

The two AQMAs within the Borough have been declared due to road traffic emissions of nitrogen oxides.

WCC is the relevant highway authority for the AQMAs and is committed to working jointly with N&BBC to improve transport within the Borough. County Councils have a duty under section 86(3) of the Environment Act 1995 to put forward proposed actions which they themselves can implement to work towards meeting the air quality objectives in AQMAs. WCC should include these measures within the air quality section of the Local Transport Plan (LTP). Once the Air Quality Action Plan has been adopted by N&BBC, it is envisaged that the Plan will be formally incorporated into the LTP by WCC.

The Action Plan reflects the relevant organisational responsibilities for actions within the AQMA and proposed measures (Section 6) that are aimed to reduce NO_2 concentrations within the two declared AQMAs and within the Borough as a whole.

2 Overview of Air Quality in Nuneaton & Bedworth

2.1 Local Air Quality Management – Review and Assessment

The conclusions of the first round of local air quality review and assessment, commencing in 1998, were that all air quality objectives were expected to be met and no AQMA were declared.

Following the outcome of the second round Updating and Screening Assessment (USA) in 2003, the Council undertook a detailed assessment in 2004, which concluded that there was a potential risk of exceedence of the annual mean NO_2 objective at receptors adjacent to the Leicester Road Gyratory, based on the limited monitoring data available at that time. Further monitoring and modelling was undertaken to confirm the findings of the detailed assessment and the results indicated that there remained a risk of exceedences of the annual mean NO_2 objective at sensitive receptors adjacent to the Leicester Road Gyratory. The area was declared as an AQMA on 1st March 2007 and a continuous monitoring station was installed. The Further Assessment was completed in January 2008 and results are presented in Sections 2.3 and 2.4.

Nuneaton & Bedworth Borough Council completed the third round USA in June 2006 with the conclusion that a Detailed Assessment was not required for any pollutant. However, subsequent annual progress reports indicated, through local monitoring data, exceedences of the annual mean NO_2 objective along Central Avenue in Nuneaton and a Detailed Assessment was undertaken in 2008. This concluded that there was a potential risk of exceedences of the annual mean objective for nitrogen dioxide and recommended declaration of a second Air Quality Management Area. An AQMA covering the Corporation Street to Midland Road was declared in October 2009. The Further Assessment has been completed in 2010 results are presented in Sections 2.3 and 2.4.

The 2008 Annual Progress Report (APR) indicated a number of roadside/kerbside sites may be at risk of exceedence of the annual mean objective outside the areas previously assessed. It was therefore recommended that façade based monitoring be installed at these locations to demonstrate compliance with the objective.

The fourth round 2009 USA findings indicated the objectives were likely to be achieved for all pollutants outside of the existing AQMA. A Detailed Assessment of PM_{10} was recommended to assess the impact of fugitive emissions from waste transfer facilities ABS Skips, Midland Road, Nuneaton; Crown Waste, Pool Road, Nuneaton; and Budget Skips (and Hammonds Skips - adjoining premises), Colliery Lane, Exhall. It was also suggested to commence additional diffusion tube monitoring at Black Bank at the junction of Colliery Lane and Coventry Road, and the West Coast Main Line. At present no progress has been made with a PM_{10} survey due to funding difficulties.

Figure 1 - Leicester Road Gyratory AQMA (2007)

Figure 2 - Midland Road to Corporation Street AQMA (2009)

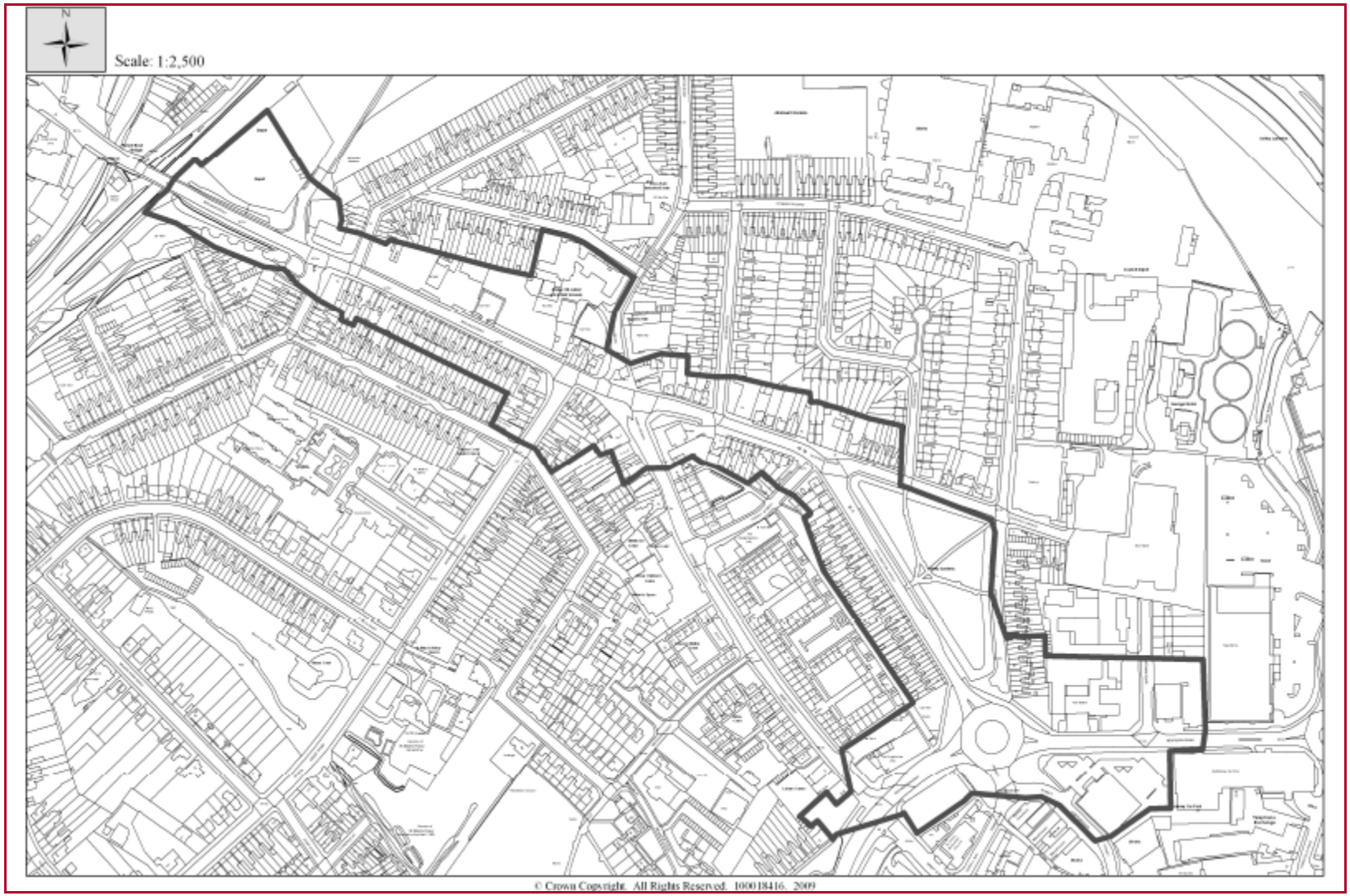
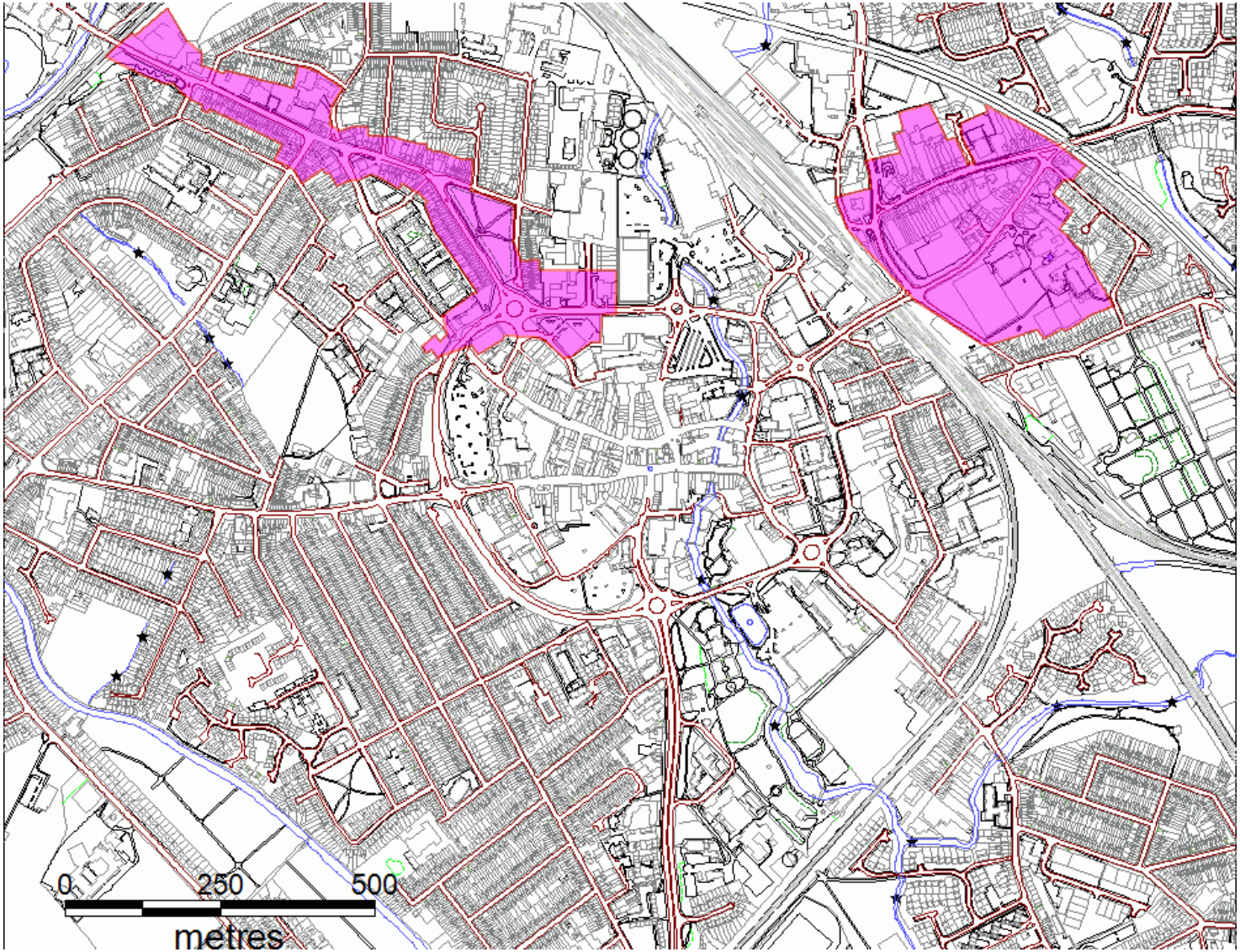


Figure 3 - Nuneaton AQMAs



2.2 Monitoring Data

There is currently automatic monitoring of nitrogen dioxide (NO_2) undertaken by the Council at one location in the Leicester Road Gyratory AQMA in Nuneaton. The station was installed in 2007, to more accurately assess NO_2 concentrations in the AQMA. NO_2 concentrations are measured using a chemiluminescent analyser.

This site continues to measure exceedences of the NO_2 annual mean objective. All other objectives are currently being met.

Table 2 - Nuneaton Roadside Continuous Monitoring Results 2007 - 2009

Location	OS Grid Ref (X,Y)	Within AQMA?	Description	2007	2008	2009	AQS Objective
Nuneaton Leicester Road A47 Roadside	436850, 292260	Yes - Leicester Road Gyratory	Annual Mean NO_2 ($\mu g/m^3$)	36	**40**	39.1	40
			NO_2 Hourly Mean > 200μgm^3	0	0	11	18 exceedences allowed
			% Data Capture	(39) 93% for the period	97%	90%	-

Exceedences of the air quality objectives are shown in bold. Data capture less than the recommended 90% is shown in brackets.

Additionally, the Council operated a network of 40 NO_2 diffusion tubes sites in 2009, of which 12 are within the Leicester Road Gyratory AQMA and 7 within the Midland Road / Corporation Street AQMA. 6 of these sites exceeded the NO_2 annual mean AQS objective in 2009. Results for the past three years at the sites located in the Nuneaton AQMA are provided in Table 3.

Table 3 - Diffusion Tube Results in Nuneaton AQMAs

Site ID	Location	Site Type	X	Y	In AQMA *	NO_2 Annual Mean Concentrations $\mu g/m^3$) Adjusted for Bias			Data Capture 2009 (%)
						2007 (Bias 0.89)	2008 (Bias 0.90)	2009 (Bias 0.90)	
NB9	Manor Court Road	Kerbside	435634	292259	AQMA2	37	34	36.1	92
NB10	17 Old Hinckley Road	Kerbside	436600	292206	AQMA1	38	34	35.9	100
NB11	34 Old Hinckley Road	Roadside	436675	292259	AQMA1	**47**	**47**	**43.4**	100
NB12	64 Old Hinckley Road	Roadside	436830	292308	AQMA1	**42**	**44**	39.4	100
NB14	46 Leicester Road	Roadside	436783	292174	AQMA1	**41**	**45**	**42.9**	100
NB15	Bridge Grove-Leicester Road	Kerbside	436878	292300	AQMA1	35	30	33.9	100
NB16	Graziers Arms	kerbside	436579	292205	AQMA1	37	33	30.0	100
NB AQMA1	AQMA Leicester Road	Co-location triplicate	436844	292251	AQMA1	**-**	**-**	36.4	83
NB20	17 Old Hinckley Road (façade)	Façade	436604	292201	AQMA1	33	33	32.7	100
NB21	36 Old Hinckley Road (façade)	Façade	436690	292271	AQMA1	37	37	34.5	100
NB22	64 Old Hinckley Road (façade)	Façade	436829	292311	AQMA1	30	31	30.6	100
NB23	46 Leicester Road (façade)	Façade	436783	292174	AQMA1	39	39	36.2	100
NB24	31 Leicester Road	Façade	436813	292199	AQMA1	33	29	28.1	100
NB25	25 Central Avenue	Façade	435817	292273	AQMA2	**43**	37	36.6	100
NB26	26 Central Avenue	Façade	435758	292312	AQMA2	34	33	35.0	100
NB27	90 Corporation Street	Façade	435949	292113	AQMA2	**41**	**45**	**44.3**	100
NB28	138 Corporation Street	Façade	435894	292202	AQMA2	38	**46**	**40.0**	100
NB29	16 Midland Road	Façade	435626	292343	AQMA2	**41**	**50**	**46.3**	100
NB30	50 Midland Road	Façade	435559	292375	AQMA2	**40**	**42**	**45.6**	100

* AQMA1 = Leicester Road Gyratory
AQMA2 = Midland Road / Corporation Street

2.3 Source Apportionment

The source apportionment of NO_x and NO_2 is estimated through the monitored and modelled concentrations. The source apportionment of NO_2 is complicated as the relationship between NO_2 and NO_x emissions is non-linear. The source apportionment is based on two main components, which are apportioned further: background (local and regional) and local (such as from various vehicle categories e.g. cars, LGVs, HGVs and buses).

Contributions for all sources were calculated at the receptor representative of public exposure in the exceedence area where the maximum concentration was predicted, thus representing the worst case scenario.

Source apportionment calculations were carried out in the Further Assessments (in 2007 for the Leicester Road AQMA and in 2010 for the Midland Road / Corporation Street AQMA). Results are presented below for each AQMA. Source apportionment is more detailed for the Midland Road / Corporation Street AQMA as it reflects changes in the methodology recommended in Technical Guidance LAQM.TG(09)[7].

2.3.1.1 Leicester Road Gyratory AQMA

The source apportionment for the Leicester Road Gyratory AQMA was carried out based on the methodology available at the time, which was Technical Guidance LAQM.TG(03)[8]. With regard to vehicle classes, only Heavy-Duty Vehicles (HDVs – comprising of HGVs and buses/coaches) and Light-Duty Vehicles (LDVs comprising of cars and LGVs) were available at the time.

The results of the source apportionment work indicated that road traffic emissions are the main source of NO_x in the AQMA (67%). The HDV class vehicles are contributing disproportionately to NO_x concentrations in the AQMA; contributing to half of the NO_x concentrations from traffic, but being only a small proportion (5%) of the vehicle fleet.

Table 4 - Source Apportionment of NO_x - Leicester Road Gyratory AQMA

Source	NO_x Concentration ($\mu g/m^3$)	NO_x Contribution
Background	36.2	33%
Local Road Source Contributions (LDVs + HDVs)	73.6	67%
▪ **HDVs**	38.7	35%
▪ **LDVs**	34.9	32%

2.3.1.2 Midland Road / Corporation Street AQMA

The source apportionment was carried out for the following vehicle classes: cars, light goods vehicles (LGVs), buses and heavy goods vehicles (HGVs) - while the UK modelled background pollutant maps allowed source apportionment of the background contribution, as shown in Table 5. This is consistent with the

[7] Technical Guidance LAQM.TG(09) Box 7.1
[8] The updated Technical Guidance LAQM.TG(09) was released after the Further Assessment of the AQMA, carried out in 2007.

methodology recommended in LAQM.TG(09). The source apportionment indicated that:

- Road traffic emissions are the main contributor to NO_x, as they account for 79% of the total NO_x concentration at the worst-case receptor;
- Of the road traffic sources, cars are the most significant contributor, with around 26% of the total NO_x concentrations, with heavy-goods vehicles (HGVs) and buses following with a contribution of respectively 23% and 20%, and finally light-goods vehicles (LGVs) with a 10% contribution. The contribution of HGVs and buses is quite significant especially if compared to the proportion of the vehicle fleet they represent;
- Background concentrations account for 21% of the total NO_x concentration at the worst-case receptor, with about 7% due to regional background concentrations outside the Local Authority's influence;
- Similar to NO_x, the source apportionment of NO_2 indicates road traffic emissions to be the most significant contributor, contributing 68% to overall NO_2 concentrations.

Table 5 - Source Apportionment of NO_x - Midland Road / Corporation Street AQMA

Source	NO_x Concentration ($\mu g/m^3$)	NO_x Contribution	NO_2 Concentration ($\mu g/m^3$)	NO_2 Contribution
Total NO_X 2009 (Total Background + Local Road Source)	124.1	100%	53.0	100%
NO_X Total Background (Local + Regional)	26.1	21.0%	16.9	31.9%
▪ **NO_X Local Background**	17.8	14.3%	11.5	21.7%
▪ **NO_X Regional Background**	8.3	6.7%	5.4	10.2%
Local Road Source Contributions (LDV + HDV)	98.0	79.0%	36.1	68.1%
▪ **NO_X CARs**	31.9	25.7%	11.7	22.1%
▪ **NO_X LGVs**	12.7	10.3%	4.7	8.8%
▪ **NO_X HGVs**	28.3	22.8%	10.4	19.7%
▪ **NO_X BUSes**	25.1	20.2%	9.2	17.4%

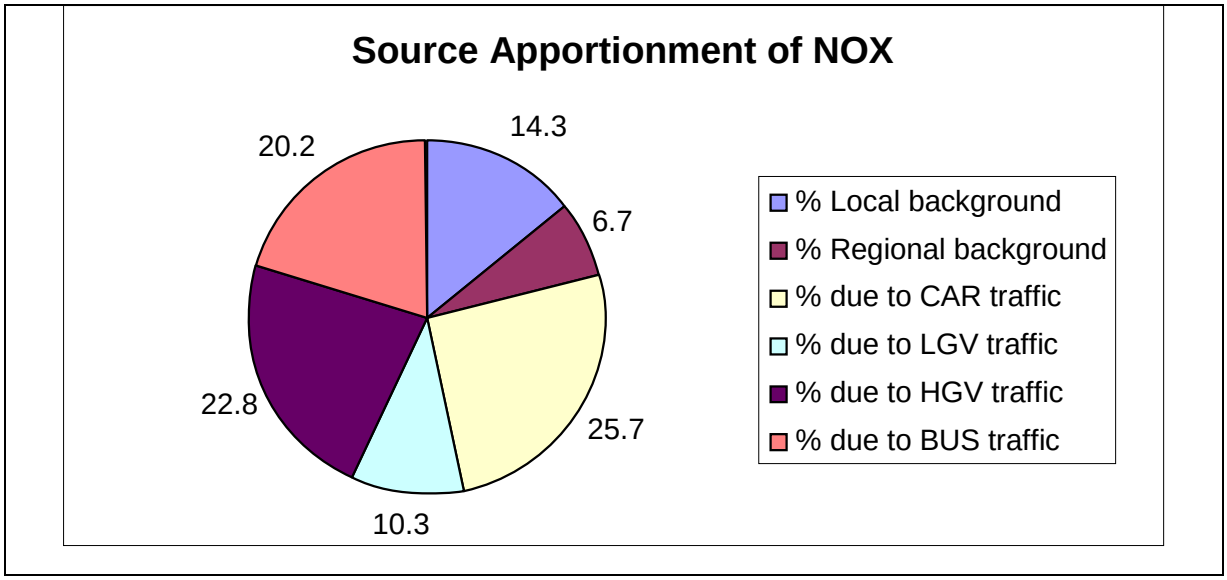


Table 6 - Source Apportionment of NO_x Background Concentrations

Background Source	NO_x Concentration ($\mu g/m^3$)	NO_x Contribution to Total Background Concentration
Local Background	17.8	68.2%
▪ Road Sources (minor roads only as all main roads have been included in the dispersion modelling)	1.5	5.7%
▪ Industry (combustion in industry, energy production, extraction of fossil fuel, and waste)	5.9	22.6%
▪ Domestic	1.4	5.4%
▪ Aircraft	5.0	19.2%
▪ Rail	0.0	0.0%
▪ Other (ships, offroad and other emissions)	1.5	5.7%
▪ Point Sources	2.4	9.2%
Regional Background	8.3	31.8%
Total Background	26.1	100.0%

2.4 Required Reductions in NO_2

A requirement of the Further Assessment is to determine the amount of NO_x/NO_2 reduction required at the worst-case receptors within the exceedence area. This approach highlights the maximum reduction in NO_2 required (as NO_x, in $\mu g/m^3$) to comply with the AQS objective, and assumes that other receptors will require less of a reduction.

2.4.1.1 Leicester Road Gyratory AQMA

The required NO_x/NO_2 reduction in Leicester Road Gyratory AQMA to comply with the AQS objective was carried out for the Further Assessment 2007. A maximum NO_x reduction of 9.5µg/m^3 (equivalent to a 9% improvement in NO_x) was calculated, equivalent to a 2.3µg/m^3 reduction in NO_2 (i.e. a 6% improvement in NO_2 concentrations). Consequently, the formulation of an Action Plan should aim to reduce the levels of NO_x/NO_2 within the Leicester Road Gyratory AQMA by this amount.

2.4.1.2 Midland Road / Corporation Street AQMA

The required NO_x/NO_2 reduction in the Midland Road / Corporation Street AQMA to comply with the AQS objective was determined for the Further Assessment 2010.

A maximum NO_x reduction of 50.5µg/m^3 (equivalent to a 41% improvement in NO_x) was calculated. This equates to a 13.0µg/m^3 reduction in NO_2 (equivalent to 25% improvement in NO_2 concentrations). Consequently, the formulation of the Action Plan should aim to reduce the levels of NO_x/NO_2 within the Midland Road / Corporation Street AQMA by this amount.

3 Local Policies and Strategies

There are a number of related policies and strategies at the local level that can be tied in directly with the aims of the Air Quality Action Plan, and will help contribute to overall improvements in air quality across the Borough.

3.1 Sustainable Community Plan for Nuneaton & Bedworth (2007 – 2021)

At the beginning of 2007, the Government challenged Local Strategic Partnerships to turn their existing community strategies into "sustainable" community strategies by developing a stronger focus on integrating social, economic and environmental issues and by tackling the longer-term and global impacts on communities.

Nuneaton & Bedworth Borough Council launched its Sustainable Community Strategy 2007 – 2021 in April 2007[9].

The Sustainable Community Strategy sets out the long-term vision for Nuneaton and Bedworth. One of the key themes in the Sustainable Community Strategy is to achieve a Sustainable Borough, with the following aims for the environment and transport:

- **Environment:** Have a high quality environment with increased biodiversity and a sustainable approach to waste and energy.
- **Travel and Accessibility:** To improve the Borough's transport infrastructure in order to provide easier access to key services and facilities.

Actions set out in the Strategy with respect to the environment and transport include the following:

[9] www.nuneatonandbedworth.gov.uk/community-living/community-advice/community-strategy/community-plan

- Raise awareness of renewable energy and work in partnership to make the Borough more energy efficient.
- Encourage the use of public transport.
- Encourage more people to walk and cycle where possible.
- Develop car share programmes.

3.2 Nuneaton & Bedworth Borough Council Local Development Framework

As required by the Planning and Compulsory Purchase Act 2004 Local Plans are in the process of being replaced by Local Development Frameworks (LDFs). The Local Development Scheme (LDS) 2010 sets out how N&BBC intends to produce its LDF as well as its timetable for production. The Nuneaton and Bedworth LDF will comprise of a series of Local Development Documents (LDDs), the most important of which is the Borough Plan, which will detail the strategic planning policies for the local area until 2026. During plan preparation Strategic Environmental Appraisal/Sustainability Appraisal needs to be undertaken to ensure the social, environmental and economic implications of future growth have been fully considered, and where appropriate, mitigated. In addition there is a need to prepare a Statement of Community Involvement (SCI) as a part of the LDF. The SCI identifies how the Council will consult on the various parts of the LDF; including with those groups that are traditionally hard to reach.

3.3 Nuneaton & Bedworth Borough Local Plan (2006)

The planning policies contained within the Nuneaton and Bedworth Local Plan, were adopted in June 2006. Following the introduction of Local Development Frameworks in 2004, certain policies within the Local Plan have been 'saved' to act as a part of the Development Plan for the Borough until the new LDF policies are gradually adopted.

Saved policies within the Nuneaton and Bedworth Borough Local Plan, which are particularly relevant to air pollution and transport issues, are shown below.

Policy T6:

"Where other material considerations do not indicate otherwise, planning permission will be granted for proposals which provide new or improved public transport interchanges, and development will not be permitted which prejudices the future use of the rail network."

Policy T10:

"Parking provision for new developments, including changes of use, shall not exceed the maximum standards set out in Annex D of PPG13 "Transport" and in the Council's Supplementary Planning Guidance (SPG). Proposals for residential development shall have regard to the SPG standards and the advice on car parking in paragraphs 59-62 of PPG3."

By 2012 these policies will have been replaced by new policies contained within the Nuneaton and Bedworth LDF/ Borough Plan, subject to its successful adoption.

3.4 Warwickshire Local Transport Plan

The Local Transport Plan sets out the Strategy and Implementation Plan detailing how the County Council and its partners intend to improve transport. Warwickshire's second Local Transport Plan (LTP2) was published in April 2006, covering the period 2006-2011. This Plan is currently being reviewed and the third Local Transport Plan (LTP3) will be published in April 2011, covering the period 2011-2026.

The LTP outlines policies, strategies and schemes designed to improve transportation, environment and quality of life across the whole of Warwickshire. It includes an Air Quality Strategy, which outlines five policies intended to have a direct positive impact on air quality within Warwickshire. These are:

- **Policy AQA1 –** Improve air quality through partnership working.
- **Policy AQA2 –** Maintain areas of good air quality.
- **Policy AQA3 –** Increase public awareness of air quality issues.
- **Policy AQA4 –** Annually review the Air Quality Strategy.
- **Policy AQA5 –** Integrate air quality and traffic planning goals.

The new LTP sets out proposals for the Nuneaton and Bedworth area, which will have a positive impact on air quality within the two AQMAs. It is intended to incorporate this Air Quality Action Plan in the final version of LTP3.

3.5 Warwickshire Climate Change Strategy

"Thinking global, acting local" Warwickshire Climate Change Strategy was adopted in June 2006. It builds on environmental and sustainable development policies produced and tested by WCC. An Action Plan has been put in place and annual progress reports are compiled yearly to measure progress. The action plan covers a range of projects in five key areas: energy, transport, resource efficiency, adaptation, communications and education.

The key objective tied in with the aims of the Nuneaton Air Quality Action Plan is the following:

Transport: "*To reduce greenhouse gas emissions resulting from transport (particularly road transport) both through our transport planning function and our own activities. This will be achieved by effective consideration and promotion of public transport, car sharing, home working and other interventions, as well as encouraging walking and cycling.*"

4 Financing

The Warwickshire Local Transport Plan has historically allocated funding to a number of schemes in the Borough of Nuneaton & Bedworth that have helped to deliver a number of Action Plan measures to improve air quality in the AQMAs. This includes development of Quality Bus Corridors, traffic management measures and encouraging the uptake of travel plans.

Annual funding towards Safer Routes to School, pedestrian and cycle schemes has also been made available through the LTP. N&BBC will work together with WCC to review current schemes for the area in the light of the findings of the review and assessment of air quality. Additional schemes will be implemented where funding allows, to secure further improvements in air quality.

Other measures to improve air quality in the two Nuneaton AQMAs and across the Borough, such as air quality monitoring and promotional activities, will be funded by N&BBC, or via the mechanisms established to implement and finance the priorities set out in the Borough Plan/ Infrastructure Delivery Plan. These priorities will relate to the Leicester Road Gyratory and Midland Road / Corporation Street areas and across the wider urban area of the town, if the generated traffic from future development is shown to negatively impact on the AQMAs.

5 Consultation

Under Schedule 11 of the Act, Local Authorities are required to consult on their draft LAQM Action Plan. It is important for the success of the Action Plan to have involvement by all local stakeholders including local residents, community groups and local businesses in the drawing up the Action Plan in addition to their active participation in achieving the action plan measures. The Action Plan has been drawn up for consultation with relevant representatives from N&BBC and WCC, through the Nuneaton AQMAs Air Quality Steering Group.

The following is a list of statutory and non-statutory consultees to which this draft Plan will be sent:

- The Secretary of State
- The Highways Agency
- The Environment Agency
- Warwickshire County Council
- Primary Care Trusts
- N&BBC Councillors and Officers
- Neighbouring local authorities
- Local residents within and bordering the AQMA
- Relevant local businesses, community groups and forums
- Other relevant local stakeholders

All comments from both Statutory and non-statutory consultees received on the draft Action Plan will be considered and incorporated where appropriate into the final Action Plan. The timescale for consultation shall be a minimum of 8 weeks.

6 Action Plan Proposals for Nuneaton & Bedworth Borough Council

The following section outlines a number of proposed measures, which will reduce NO_2 concentrations within the two declared AQMAs. It is hoped that a number of these measures will also positively contribute towards reducing background levels of pollution within the Borough as a whole.

In order to inform the action planning process a simple assessment of the cost and benefit of each proposal has been undertaken. Table 7 gives an indication of the scoring used. A simple multiplication of the cost and impact, (score X score), gives some indication as to the cost effective score of the proposals. This methodology is commonly applied across the UK.

The ranking of options has been based on professional judgement through the assessment of a number of considerations; including the costs and benefits of all the options, feasibility and acceptability, and whether they will achieve the AQS objective. It is likely that the NO_2 annual mean objective will only be achieved through a combination of measures.

At this stage the impact assessment is qualitative. Quantitative air quality impact assessment of the principal LTP measures will be undertaken when relevant information on the detailed schemes becomes available.

Table 7 - Scoring Used to Assess and Prioritise Proposals

Costs		Air Quality Impacts		Timescale*	
Score	**Approximate Cost**	**Score**	**Indicative Impact**		**Years**
7	<£10k	7	>5 µg/m^3	Short (S)	1- 2
6	£10-50k	6	2-5 µg/m^3		
5	£50k-100k	5	1-2 µg/m^3		
4	£100k-500k	4	0.5 - 1 µg/m^3		
3	£500k-1 million	3	0.2 – 0.5 µg/m^3	Medium (M)	3-5
2	£1-5 million	2	0 - 0.2 µg/m^3		
1	>£5million	1	0 µg/m^3	Long (L)	6+

6.1 Proposed Measures for the AQMA

The following provides a number of action plan measures proposed to reduce NO_X emissions in both AQMAs in pursuit of the annual mean Air Quality Strategy objective and EU Limit Value for NO_2.

The A47 Leicester Road Gyratory is a key strategic route in/out of Nuneaton, due to the constraint issue of one railway bridge crossing in the town centre, and therefore achieving reductions in traffic on this road to improve air quality is considered challenging.

The B4114 Midland Road/Corporation Street approach to the town also carries a significant volume of vehicles to/from a number of residential areas in North West Nuneaton. The use of this corridor is also likely to intensify in the future with the planned redevelopment of the former Judkins Quarry and further regeneration in and around Camp Hill.

Over the last 10 years traffic levels in the Nuneaton urban area, as recorded by outer cordon traffic surveys, have slightly increased overall. The solution to the air quality problem in both AQMAs is more likely to be achieved through the implementation of a package of measures to achieve modal shift towards sustainable transport modes and restrain traffic growth.

6.1.1 Traffic Management Measures

Any future opportunities to change the traffic management arrangements within Nuneaton town centre are likely to come about as a result of the growth proposals within the Borough Council's Local Development Framework (LDF) Borough Plan. This could include provision of additional capacity on the Ring Road and its approaches, and wider Urban Traffic Management Control (UTMC) measures such as traffic signal co-ordination and Variable Message Signing (VMS) to public car parks. The specific nature and scale of these improvements will be identified using the County Council's Nuneaton and Bedworth S-Paramics model. This work will be undertaken to inform the County Council's response to the LDF Borough Plan Preferred Option. Some preliminary feasibility work on VMS has already been undertaken by the County Council.

AQAP 1: N&BBC will work in partnership with WCC to identify and bring forward traffic management improvements in Nuneaton town centre, particularly where they will benefit the two AQMAs.

6.1.2 Sustainable Freight Improvements

The LTP includes a Sustainable Freight Distribution Strategy, which sets out a range of measures which will be delivered in the short/medium term. These include keeping the Warwickshire Advisory Lorry Map under review. This is particularly important to the Action Plan given the impact that HDVs (HGVs and buses) have on air quality within the AQMAs. The second edition of the Lorry Map review was published in 2009. The presence of important roads such as the A444 and B4114 within the AQMAs mean that it is difficult to direct HDVs traffic away from them.

AQAP 2: N&BBC will work in partnership with WCC to identify measures to reduce the impact of HGV movements within the area.

6.1.3 Improvements for Pedestrians and Cyclists

The LTP includes strategies to promote walking and cycling. These suggest that a combination of measures related to promotion, information and infrastructure provision are needed to encourage and facilitate these modes. Their provision is also vital as part of the development process to ensure that new housing and employment sites come forward in a sustainable way.

Recent examples of schemes to improve walking and cycling include the following:

- A444 Weddington Road cycleway;
- Attleborough – Bermuda cycle route;
- Upgrade of pedestrian crossing facilities, Arbury Road, Nuneaton; and
- Provision of a new toucan crossing, Leicester Road/Trent Road.

Further new and enhanced pedestrian and cycle facilities are proposed to come forward through the LTP and as part of new development promoted through the LDF Borough Plan.

AQAP 3: N&BBC will work in partnership with WCC and Sustrans to deliver further improvements for pedestrians and cyclists within the area.

6.1.4 Public Transport Improvement Measures

Opportunities exist for better physical integration of transport within and between modes at Nuneaton Bus Station and the railway station. Improvements to Nuneaton Bus Station are planned to come forward as part of the redevelopment proposals for the town centre which are being promoted through the LDF Borough Plan. The existing bus station is well located between the town centre and the railway station. A reconfiguration of the layout of the bus bays would reduce the area taken by the bus station, whilst allowing for potential growth of services. The layout and orientation of any new development would be designed to strengthen the physical and visual link between the bus station and rail station.

There are proposals in the LTP to improve bus reliability and reduce journey times on key corridors through bus priority measures and further Quality Bus Corridors (QBCs) and Initiatives (QBI).

In line with the LTP Bus Strategy, WCC will work with bus operator Stagecoach in Warwickshire to develop further QBCs. Nationally, the introduction of initiatives such as QBCs has resulted in an increase in bus patronage of 30-36%. The QBC concept

proved successful during the first and second Warwickshire LTP's in increasing patronage on key commercial bus routes. The concept combines the provision of enhanced bus stop infrastructure and information by WCC as the highway authority, with improved vehicle and service frequency enhancements provided by the operator.

As part of the North Warwickshire Quality Bus Initiative, the BIA - Coleshill - Coleshill Parkway - Hams Hall - Nuneaton QBI Scheme was delivered in partnership with Stagecoach in Warwickshire. The bus service links key local centres and rural communities with access to the new Coleshill Parkway transport interchange, Birmingham International Airport (BIA) and railway station, employment sites and educational facilities. It also forms the first part of a M42 public transport corridor from Tamworth to Stratford-upon-Avon which the West Midlands Multi-Modal Study believed essential for continued economic growth and social development.

The scheme involved the procurement of 3 full size single decker buses to operate on Service 717 (BIA - Coleshill - Coleshill Parkway - Hams Hall - Nuneaton). The bus route was also extended to serve both the Coleshill parkway Transport Interchange and Birmingham International Airport and the frequency of the bus service was increased to hourly. Patronage on Service 717 has increased by 15% since the QBI scheme was delivered[10], which is in line with the LTP target.

In terms of rail transport, WCC is promoting a major upgrade of passenger rail services in the North-South Corridor between Leamington Spa and Nuneaton, as part of the NUCKLE scheme (**Nu**neaton, **C**oventry, **K**enilworth and **Le**amington/Warwick). Phase 1 of NUCKLE includes new stations at Bermuda and Ricoh Arena, with delivery proposed in the short term (2011-2016).

AQAP 4: N&BBC will work in partnership with WCC, public transport operators, DfT Rail and Network Rail to implement better integration of public transport in Nuneaton, including improvements for bus, rail and community transport infrastructure and services.

6.1.5 Travel Plans

A Travel Plan is a general term for a package of tailored measures to encourage the use of sustainable methods of transport and reduce the reliance on the private car, particularly in terms of single occupancy travel. They can be for one or a group of organisations and involve the development of a set of mechanisms, initiatives and targets that together can reduce the environmental and health impacts of travel. Using alternative fuels and home working can also be included. Travel Plans are also being developed for schools, residential, employment and mixed-use developments.

School Travel Plans

A School Travel Plan is a set of measures to help cut the number of car journeys people make to school, by encouraging more journeys by public transport, walking and cycling. National experience suggests that a reduction in the number of cars driven to school can be achieved by between 4 and 23 for every 100 pupils, equivalent to between 8% and 52%.

[10] Warwickshire County Council data – Comparison between 2006/07 baseline and opening 2008/09

There are a number of schools within or near to the AQMAs within Nuneaton, where implementation of School Travel Plans will be of significance. Of particular note is Etone School, which is within the Leicester Road Gyratory AQMA. The School produced a Travel Plan in 2005, which set out key objectives to increase travel awareness and uptake of non-car modes, notably the encouragement of cycling. The school has spent their School Travel Plan grant on cycle storage and improving access.

The School Travel Survey census results are provided in Table 8.

Table 8 – Etone School Travel Survey

Date	Walk	Cycle	Car	Car Share	Bus	Other	Number of Pupils
2008/09	41.5%	5%	38%	4%	10.5%	1%	760
Jan 2008 census	328 43%	30 4%	308 40%	1 0%	88 12%	6 (taxi) 1%	761
Jan 2007 census	358 47%	39 5%	265 35%	0 0%	98 13%	6 (taxi) 1%	766
Oct 2005 hands up	51%	10%	7%	20%	11%	1%	710
Oct 2004 hands up	51%	12%	27%		9%	1%	

The Warwickshire LTP target for journeys to school is to maintain the proportion of car (sole passenger) journeys to school at 2005/06 levels (15%). This is considered stretching given that, with no investment, sole passenger car use for journeys to school could be expected to rise to between 20-25% of trips.

Workplace Travel Plans

A Workplace Travel Plan should be tailored to the needs of individual businesses. It considers journeys from home to work, but can also include business journeys, travel by visitors, deliveries, contractors and company cars. Large organisations may benefit from a whole range of new ideas and changes, while small businesses may only need to make one or two very simple changes to make a big difference. National experience suggests that a reduction in the number of cars driven to work can be achieved by 14 for every 100 members of staff.

Within Nuneaton & Bedworth there is already a planning requirement for all new business developments likely to generate significant travel demand and/or travel movement to submit travel plans as part of their planning permission.

N&BBC will work in partnership with WCC to target those organisations in the borough which are generating high volumes of traffic, notably those impacting on the two AQMAs.

Personalised Travel Planning

Personalised travel planning is the provision of individually tailored transport information, usually in terms of details of public transport services or cycle routes. According to research undertaken in Germany, Australia, the US and UK, personalised travel planning can lead to a reduction in car driver trips of between 7-15% amongst targeted populations in urban areas. In Warwickshire, some personalised travel planning is provided by WCC through implementation of the LTP Changing Travel Behaviour Strategy and the WCC Travel Plan commitment.

AQAP 5: N&BBC will work in partnership with WCC to increase uptake and implementation of School and Workplace Travel Plans, particularly where they are likely to impact on the AQMAs.

Council Travel Plan

The Government is keen for local authorities to demonstrate their commitment to delivering cleaner air by leading by example and therefore the implementation of a Council Travel Plan is a key measure to take forward in the Air Quality Action Plan.

Targets have been included in the Borough Council Environmental Sustainability Strategy 2010-2013 "To re-launch Car Share database for NBBC employees" and "To develop a Local Green Travel Plan policy". Both of these targets have been achieved and the Travel Plan policy is available at www.nuneatonandbedworth.gov.uk. The aims of the policy are fourfold:

a) To help to relieve traffic congestion.
b) To assist with a reduction in CO_2, nitrogen oxides and air particulates.
c) To improve health and fitness for employees taking up walking or cycling.
d) To assist with financial savings for both the Council and employees in some areas.

There will be a need for ongoing implementation of this policy and monitoring of success. The key measure of success will be a year on year improvement in the reduction of car journeys.

There are also clear policies in place for ensuring Council owned vehicles have high standards for emission levels through the Council's vehicle replacement policy and Reducing Pollution Certificate (RPC) for commercial vehicles. N&BBC will build upon the current schemes for employees to encourage reduced car use through its Travel Plan policy.

Carshare Warwickshire www.carsharewarwickshire.com is a regional car sharing scheme for businesses and the public which is part of the UK's liftshare network. There are over 374,000 car sharers registered with the liftshare network[11].

[11] www.carsharewarwickshire.com – Accessed June 2010

Carplus www.carplus.org.uk is the national charity promoting responsible car use through schemes such as car clubs. On 1st February 2010 there were 113,000 car club members across the UK using 2,260 cars[12].

A Car Club provides its members with quick and easy access to a car for short term hire. Members can make use of Car Club vehicles as and when they need them. Car Clubs offer cost savings as members of a car club pay lower fixed costs than car owners. The annual membership typically costs less than a tax disc. There are often low user membership fees for those doing only one or two trips a month. After that you pay as you drive.

Car Clubs result in a reduction in car miles driven, with members walking or cycling more, using public transport more often or simply re-arranging how they make journeys and travelling less. Reducing car miles driven in turn reduces exhaust emissions and improves air quality.

Belonging to a car club makes it easier for people to meet their transport needs without running their own car, or in some cases without owning a second car. Research in the UK and overseas has found significant changes in travel behaviour once the link between car use and car ownership is broken. Car club members typically drive less and make more use of public transport, cycling and walking. In the UK, former car owners increase their use of non-car transport modes by 40% after joining a car club. Two-thirds of those who owned a car before joining saw their mileage fall, by an average of around 25%. Car club users typically give up owning a first or second car on joining; others defer purchasing one due to using the car club instead. The result being that each car club car typically replaces 6 private cars.

Within Warwickshire, there are currently no Car Clubs in operation. However, it is being considered as part of the Action Planning process in Rugby where, similar to Nuneaton, road traffic emissions are the main source of air quality issues.

AQAP 6: N&BBC will continue to develop, implement and monitor its Travel Plan policy

6.1.6 Spatial Planning

Section 3.4 summarises the saved policies within the Nuneaton & Bedworth Borough Local Plan (2006), which currently contribute to securing air quality improvements. New policies relating to air quality and sustainable transport will be brought forward within the emerging N&BBC Local Development Framework (LDF) and adopted by 2012.

Strategic policies within the LDF Borough Plan have a key role in delivering sustainable transport systems within the area by considering and influencing the accessibility, location, scale, density, design and mix of development and encouraging alternative modes of travel. In addition, the Borough Plan Infrastructure Delivery Plan will establish the priorities for future investment in the Borough to 2026. Any improvements required to the AQMAs will therefore need to be incorporated into

[12] Carplus Annual Survey of Car Clubs Report (2009/10) – Available online at www.carplus.org.uk

the IDP in order that funding sources can be allocated to their delivery. The IDP will provide the focus for all external funding sources, including future developer contributions. The IDP will be the key means of determining the timescale, costs and responsibility for delivery of the infrastructure required to support new growth in the Borough.

All new developments have the potential to affect air quality and therefore developers are encouraged to take part in pre-application discussions before submitting a planning application. Future developments will require an air quality assessment where a significant change in air quality is expected or anticipated. For developments that are likely to have a significant impact on the AQMAs, planning applications will have a requirement to be accompanied by an air quality assessment to determine the significance of the impact and the mitigation measures required to minimise those impacts.

AQAP 7:

i) N&BBC will include planning policies in its Borough Plan that seek to improve air quality, to improve sustainable transport links and to secure travel plan agreements.

ii) N&BBC will identify specific pieces of infrastructure, required to mitigate the impact of new development on the AQMA, to be included in the Infrastructure Delivery Plan of the Borough Plan. The priority of air quality mitigation will be considered alongside the Borough's other infrastructure demands in terms of gaining external funding and developer contributions / community infrastructure levy.

iii) N&BBC will encourage developers to take part in pre-application discussions to ensure air quality is considered when formulating a planning application. Developers should ensure good design as a part of their proposals and actively endorse travel planning to minimise and mitigate the impacts of new development upon the AQMA. Where appropriate development proposals should be accompanied by Air Quality Assessments.

iv) NBBC will develop protocols to decide for planning applications, when air quality will be considered, what considerations will be required and what mitigation measures may be required; including the use of Section 106 Agreements and/or Community Infrastructure Levy.

6.1.7 Improve Emissions Standards for Council Fleet and Public Service Vehicles

This measure would lead to reductions in emissions of NO_X by improving emissions standards of vehicles in the public service sectors.

Quality Bus Corridors and Initiatives

Further Quality Bus Corridors and Initiatives are proposed to be developed in Nuneaton & Bedworth through the LTP. The potential to explore improvements in emissions standards through Quality Bus Corridors (QBC) is potentially high, particularly in terms of the deployment of newer, cleaner vehicles.

Taxis

Emissions from taxis are checked on a 6 monthly basis as part of the requirements of licensing. Further consideration could be given to setting minimum emissions standards for taxis through the licensing system.

Council fleet and contractor vehicles

The scope for further improvements in the Council fleet and for contractor vehicles can be investigated through contract renewal/review. The Government is keen for local authorities to demonstrate their commitment to delivering cleaner air by leading by example and therefore improving the Council's fleet emissions are key measures to take forward in the Plan.

N&BBC have a 5 year replacement policy on the Council owned vehicles to ensure that emissions standards of vehicles are improved with time and are compliant with required Euro emissions standards. N&BBC also have a Reducing Pollution Certificate (RPC) for commercial vehicles and all vehicles are Euro IV compliant. Vehicles currently use 5% bio diesel, as use is limited by the vehicle warranty beyond this. N&BBC also undertake emission checks on their vehicles through their regular servicing programme, which ensures that emissions are checked at a greater frequency than the MOT checks.

AQAP 8: N&BBC will continue to work with WCC and other partners to deliver improvements in emissions standards, where practicable.

6.1.8 Promotion and Education

It is important that information on air quality is provided in a clear and accessible way. The Council web site[13] provides details on air quality within the Borough and LAQM Review and Assessment Reports are available for viewing. Links to relevant WCC website pages will also be provided where appropriate.

AQAP 9: N&BBC will make details of the Action Plan measures and annual progress reports available on its Website to ensure accessibility to the consultation and implementation process.

N&BBC is a member of the Warwickshire Environmental Protection Council. The Council involves a partnership of the Warwickshire district authorities, Warwickshire County Council and Coventry City Council who share information on environmental issues, including air quality, and work together on air quality issues that affect the area. N&BBC will continue to work closely with the County Council and neighbouring districts on air quality issues.

[13] www.nuneatonandbedworth.gov.uk/

Travel awareness campaigns are generally national campaigns which are implemented at a regional or local level, and include TravelWise, Car Free Day, and Bike to Work Week. They aim to reduce society's dependence on the car by raising awareness of environmental, health, economic and social impacts of car use, change attitudes towards car use, promote more sustainable modes of travel and lifestyles that require less travel, and reduce unnecessary car use. Evidence collected nationally suggests that around 20% of car trips are not car dependent, and are either very marginal or could be undertaken by another mode (typically on foot, by bike or on public transport). At a County level, these are implemented through the WCC LTP Changing Travel Behaviour Strategy and a TravelWise officer is employed by WCC to help deliver this.

AQAP 10: N&BBC will continue to work in partnership with WCC and the Warwickshire district authorities on air quality and travel awareness campaigns to raise the profile of air quality in the Borough and County-wide.

6.1.9 Local Air Quality Management and Pollution Control

Air Quality Monitoring

The air quality monitoring network in N&BBC provides more accurate information and understanding of air quality within the Borough. A continuous NO_2 monitor was installed in the Leicester Road Gyratory AQMA in 2007, which provides more accurate information on pollutant concentrations in the AQMA as Action Plan measures are implemented. The continuous monitoring is supplemented by NO_2 passive diffusion tubes, a number of which are within the AQMAs. WCC also measures traffic levels within and around the AQMAs to identify changes in traffic volumes.

AQAP 11: N&BBC will continue the commitment to undertake local air quality monitoring within the Borough to ensure a high standard of data is achieved to assess against air quality objectives.

Pollution Control

Prescribed Industrial Processes are regulated by N&BBC and the Environment Agency under the Environmental Protection Act 1990 Part I A & B and subsequent Pollution Prevention and Control Regulations 2000. There are 39 prescribed Part B/A2 Processes in Nuneaton & Bedworth regulated by N&BBC[14] and 5 A1 processes regulated by the Environment Agency.

With regard to nuisance emissions from unregulated processes, Statutory Nuisance is enforced by Environmental Health under the Environmental Protection Act 1990 Part III and this controls smoke, dust, fumes or gas emissions from commercial and domestic premises which are causing a nuisance or are prejudicial to health. N&BBC has an Enforcement Policy adopted in August 2000 to ensure that, where the Local

[14] From Nuneaton and Bedworth LAQM Updating and Screening Assessment 2009

Authority has jurisdiction, effective measures are enforced against persons responsible.

AQAP 12: N&BBC will continue to proactively enforce industrial control and nuisance legislation to minimise pollutant emissions from these sources in the Borough.

6.1.10 Energy Management

Domestic Energy Use

N&BBC are working in partnership with Act on Energy (previously WEEAC - the Warwickshire Energy Efficiency Advice Centre)[15] to promote increased energy efficiency in residential properties in the Borough and deliver specific objectives under the Home Energy Conservation Act 1995. The Centre provides advice and information to residents on the best options for saving energy and the help available e.g. grant schemes.

Energy Efficiency Accreditation Scheme

The Council has recently regained its accreditation by the Energy Institute under the Energy Efficiency Accreditation Scheme for its outstanding work in the energy field. This award is a major achievement for a district Council and only around 40 Council's have received the award. The Council was assessed in a number of key areas and had to clearly demonstrate improvements in all sections, these being Management Commitment; Investment in Energy Efficiency and Energy Efficiency Improvements.

The Council's Energy Group focus on future reductions of CO_2 emissions within the borough and have a varied programme of activities. Continual Improvements to energy systems have been made in the main buildings of the Council over the last few years, with sub-metering, a revised utilities procurement structure; advancement with the Corporate Asset Management Plan reflecting an increasing energy commitment strategy and the installation of a Combined Heat and Power Unit in the Town Hall.

To raise awareness to the public the Council have also held two annual events: Sustainability Day where stakeholders are invited to provide information to the general public on a range of sustainability issues, including energy, water and Fair Trade, and a Schools Biodiversity Day, where Key Stage 2 pupils are invited to learn about a variety of issues, including energy, waste and water.

The Council is leading by example to ensure that its systems and processes are in place to continually improve.

Building Control

Building Control can contribute to the development of policies for air quality improvement through the promotion of emission-reducing technologies in new developments and buildings.

[15] http://www.actonenergy.org.uk

The Building Control Service has a statutory responsibility to ensure that new building works within the Borough meet minimum technical standards in relation to health, safety, welfare and energy conservation, as prescribed under the Building Regulations 1991. The Legislation sets out substantive requirements and technical guidance to achieve minimum standards. This technical guidance is contained in Approved Documents giving general guidance as well as practical guidance about some of the ways of meeting the requirements of the Regulations.

Many of these energy efficiency measures have direct synergies with the improvement of local air quality

AQAP 13: N&BBC will continue to work together with Act On Energy (formerly Warwickshire Energy Efficiency Advice Centre) and other partners to promote and implement energy efficiency measures in the Borough.

A summary of the measures to address the two AQMAs is shown in Table 9.

6.1.11 Measures considered but dismissed on the grounds of cost-effectiveness and/or feasibility at this stage

N&BBC will continue to monitor progress and best practice on these and other measures and work in partnership with WCC and other partners to investigate their potential for implementation to improve air quality and the environment in general.

Low Emission Zone (LEZ)

A Low Emission Zone (LEZ) is a geographic zone defined for an area where only vehicles of an acceptable emissions standard (currently Euro III) can enter and move around. The concept is held widely as a way of achieving air quality objectives within large urban area where economies of scale can be achieved with respect to set-up and operating costs. Further consideration to the implementation of an LEZ for the AQMAs is dismissed on the grounds of cost and feasibility.

Road User Charging or Workplace Parking Levy

The Transport Act 2000 gave local authorities powers to introduce road user charging or workplace parking levy schemes. The revenue generated from such schemes is generally used to improve local transport in the area.

The costs of introducing a road charging scheme can be offset by the revenue that is generated. Area wide charging is likely to be more costly to introduce than a designated route. The introduction of road user charging schemes has been recently considered within the West Midlands Spatial Strategy, but will not proceed in the near future. Any consideration to potential schemes in the Borough of Nuneaton & Bedworth would need to be compatible with a regional scheme. Also, any scheme would need to be part of an overall package and promoted as such to highlight the range of benefits, countering any negative arguments.

Based on charging workers for parking at their place of work, the implementation of a workplace parking levy could reduce the number of private vehicles entering Nuneaton. An area-wide parking levy could be investigated for the future but there are already organisations in Nuneaton who are charging their staff and/or visitors to park in conjunction with promotion of alternatives as part of their Travel Plans. This is

likely to grow both in terms of the level of charging and the organisations implementing it as more organisations develop Travel Plans and more are required through the planning process.

Roadside Emissions Testing

Under powers of authority (Roadside Vehicle Emissions (Fixed Penalty) Regulations 2002) local authorities are able to undertake roadside emissions testing of vehicles. The aim is to identify those vehicles that make a disproportionate contribution to emissions through poor maintenance with on-the-spot fines for those that fail. The scheme of a formal roadside emissions testing programme is not considered viable for stand-alone authorities and has therefore been dismissed as a possibility for inclusion in the current action plan.

However, roadside emissions testing will be undertaken locally by the Vehicle Operator Services Agency (VOSA). There may also be scope to investigate voluntary roadside emissions testing as part of promotional schemes within the County.

Idling Engine Emissions

The Road Traffic (Vehicle Emissions)(Fixed Penalty) (England) Regulations 2002 permit all English local authorities to take action against drivers who leave their vehicle engines running unnecessarily when parked. The local authority can issue a fixed penalty (£20) to any driver blatantly running their engine unnecessarily and who refuses all reasonable requests to switch off.

Idling emissions from parked vehicles are not considered a significant issue in the AQMAs to warrant introducing specific measures with necessary resource implications. The proposal has therefore been dismissed on the ground of cost-effectiveness.

Table 9 - Summary of Action Plan Measures

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
AQAP 1	N&BBC will work in partnership with WCC to identify and bring forward traffic management improvements in Nuneaton town centre, particularly where they will benefit the two AQMAs.	WCC / N&BBC	Short / Medium	Traffic modelling work to be undertaken to identify the nature and scale of improvements within the town centre. Option testing will be based on the spatial proposals in the Borough Council's LDF Borough Plan. Preliminary feasibility work has been completed on a Variable Message Signing (VMS) scheme for public car parking in Nuneaton.	5 (High)	3 – High - LTP3	15	Preparation / Implementation of co-ordination strategy. Number of meetings between N&BBC and WCC about traffic improvement measures in AQMAs Number of measures implemented or started
AQAP 2	N&BBC will work in partnership with WCC to identify measures to reduce the impact of HGV movements within the area.	WCC / N&BBC	Ongoing	A review of the Lorry Map has been undertaken, with a second edition being published in 2009. The presence of important 'A' and 'B' roads such as the A444 and B4114 within the AQMAs mean that it is difficult to direct HGV and HDV traffic away from them.	3 (Moderate)	7 - Low – LTP3	21	Draft document by N&BBC of identified measures to reduce HGV movements Number of measures approved by WCC Number of measures implemented/started
AQAP3	N&BBC will work in partnership with WCC and Sustrans to deliver further improvements for pedestrians and cyclists within the area.	WCC / N&BBC / Sustrans	Ongoing	Ongoing improvements through the LTP and as key development sites come forward..	3 (Moderate)	5 - Low/ Medium – LTP3/ Developer funding	15	Identification of areas, routes for pedestrians and cyclists paths Meters of paths improved / developed for pedestrians and cyclists in Nuneaton particularly in AQMAs.

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
AQAP 4	N&BBC will work in partnership with WCC, public transport operators, DfT Rail and Network Rail to implement better integration of public transport in Nuneaton, including improvements for bus, rail and community transport infrastructure and services.	WCC / N&BBC / public transport operators / DfT Rail / Network Rail	QBCs – Short / Medium NUCKLE - Short	A number of Quality Bus Corridors (QBCs) are planned during the LTP3 period (i.e. post 2010/11), including an Inter-Urban QBC between Nuneaton-Hinckley-Leicester (service 48) and a QBC between Nuneaton and the Tamworth boundary (service 765). Phased rail improvements are planned in the North-south corridor as part of the NUCKLE scheme. Phase 1 of NUCKLE includes new stations at Bermuda and Ricoh Arena with delivery proposed in the short term..	3 (Moderate)	4 - High – LTP3/ RFA / Developer funding	12	Produce strategy for integrating public transport modes No. of improvement schemes implemented/started Improvement in passenger numbers using public transport.
AQAP 5	N&BBC will work in partnership with WCC to increase uptake and implementation of School and Workplace Travel Plans (STP and WTP), particularly where they are likely to impact on the AQMAs.	WCC / N&BBC	Ongoing	Ongoing as opportunities arise, and through the development process.	3	6 - Low – LTP3 / Developer funding	18	Number of new travel plans in place. WTP: Increase proportion of working population covered STP: Decrease proportion of car school journeys / increase car-sharing
AQAP 6	N&BBC will continue to develop, implement and monitor its Travel Plan policy. As part of the ongoing implementation of this plan, N&BBC will explore the potential for operation of a Car Club in Nuneaton.	N&BBC	Short	Travel Plan Policy in place. Implementation and ongoing monitoring arrangements to be agreed via the N&BBC Environmental Sustainability Strategy Group.	2 (Low but important with respect to leading by example)	7 - Low - Existing budgets	14	Reduction on the number of car journeys.

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
AQAP 7	i) N&BBC will include planning policies in its Borough Plan that seek to improve air quality, to improve sustainable transport links and to secure travel plan agreements. ii) N&BBC will identify specific pieces of infrastructure, required to mitigate the impact of new development on the AQMA, to be included in Infrastructure Delivery Plan of the Borough Plan. The priority of air quality mitigation will be considered alongside the Borough's other infrastructure demands in terms of gaining external funding and developer contributions / community infrastructure levy. iii) N&BBC will encourage developers to take part in pre-app discussions to ensure air quality is considered when formulating a planning application. Developers should ensure good	N&BBC	Ongoing	i) and ii) Draft Borough Plan and Infrastructure Delivery Plan underway. iii) Development control officers require training in air quality issues in order to advise developers.	2 (Low but potentially high for future impacts)	6 - Low - Existing budgets	12	i) and ii) Adoption of Borough Plan and Infrastructure Delivery Plan in 2012 iii) Increased number of pre-application discussions and planning applications taking account of air quality and sustainable transport issues.

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
	design as a part of their proposals and actively endorse travel planning to minimise and mitigate the impacts of new development upon the AQMA. Where appropriate development proposals should be accompanied by Air Quality Assessments. iv) NBBC will develop protocols to decide for planning applications, when air quality will be considered, what considerations will be required and what mitigation measures may be required; including the use of Section 106 Agreements and/or CIL.							
AQAP 8	N&BBC will continue to work with WCC and other partners to deliver improvements in emissions standards, where practicable.	N&BBC / WCC / Public transport operators	Ongoing	Deployment of newer, cleaner vehicles as part of the QBC and QBI initiatives.	5	4 - TBC	20	Number of new / improved vehicles within fleets

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
AQAP 9	N&BBC will make details of the air quality measures and annual progress reports available on its Website to ensure accessibility to the consultation and implementation process.	N&BBC	Ongoing	To be uploaded to website at the appropriate time	1	7 - Low - N&BBC existing budgets	7	Availability of recently published reports on the Website
AQAP 10	N&BBC will continue to work in partnership with WCC and the Warwickshire district authorities on air quality and travel awareness campaigns to raise the profile of air quality in the Borough and County-wide.	N&BBC / WCC / Warwick-shire local authorities	Ongoing	Ongoing	2	6 (Low)	12	Number of campaigns implemented
AQAP 11	N&BBC will continue the commitment to undertake local air quality monitoring within the Borough to ensure a high standard of data is achieved to assess against air quality objectives.	N&BBC	Ongoing	Ongoing	1	6 - Low - N&BBC Existing budgets& Air Quality Grants	6	Number monitoring sites - % data capture
AQAP 12	N&BBC will continue to proactively enforce industrial control and nuisance legislation to minimise pollutant emissions from these sources in the Borough.	N&BBC	Ongoing	Ongoing	2	7 - Low - N&BBC Existing budgets	14	BVPI for upgrade of permitted industrial processes

Measure	Actions	Lead Authority	Timescale	Status	Impact	Cost	Cost Effective Score	Targets/ Indicators
AQAP 13	N&BBC will continue to work together with Act On Energy (formerly Warwickshire Energy Efficiency Advice Centre) and other partners to promote and implement energy efficiency measures in the Borough.	N&BBC		Ongoing	2	6 (Low)	12	Council's energy efficiency figures Number of consultations provided for energy

7 Implementation and Monitoring

N&BBC will work jointly on the action plan measures with its partners including WCC, transport operators, schools and local businesses. To secure the necessary air quality improvements there must be involvement by all local stakeholders and N&BBC will actively work to encourage community participation in the process.

The implementation and effectiveness of the Action Plan will be carefully observed through monitoring of nitrogen dioxide at relevant receptor locations within the AQMA. In addition, traffic flow changes on the key roads will also be assessed through the review and assessment process, and the uptake of local measures such as Travel Plans will be monitored. Indicators have been provided for the measures to be undertaken by the Council to monitor progress annually.

Targets and indicators have also been established through the second Local Transport Plan. Table 10 below shows those relevant to air quality. These targets are currently under review as part of the preparation of LTP3.

Table 10 - Air Quality Strategy - Targets and Indicators

Local Target / Indicator	Performance Indicator	Source of Data	Frequency of Monitoring
Target (LTP8): Reduce the number of exceedances of the national air quality standards and objectives between 2005 and 2010.	Monitored and modelled pollutant levels across the County.	Countywide air quality monitoring stations.	Annual
	The revocation of AQMAs.		
Target: Retain traffic volumes at 2004 levels in the urban areas of Nuneaton, Rugby, Warwick and Leamington Spa.	Road traffic levels on local road networks.	Road traffic surveys.	Annual
		Traffic modelling.	
Local Indicator: Ensure that air pollutant levels do not exceed national standards in the County where they previously have not.	Air quality assessment of major transport proposals within Warwickshire.	Countywide air quality monitoring stations. Regular and continued dialogue with the District/Borough Councils.	Annual

There will be regular review and assessment of the action plan proposals to evaluate progress and this will be reported annually, including through LAQM and LTP progress reports submitted to the Department for Transport.

8 Defra Action Planning Requirements Compliance Checklist

WORK AREA	CONSIDERED/INCLUDED	LOCATION IN ACTION PLAN/ COMMENTS
Adherence to Guidelines and Consideration of Policies		
Statutory Consultees consulted?	√	p22
Consulted with other Local Authorities and internal departments?	√	p22
Statement of Pollutant causing AQMA?	√	p8
Principle sources of pollutants identified?	√	pp14-16
Have other local authorities' plans and policies been considered?	√	pp19-20
Options timetable included?	√	pp36-41
Have options been costed?	√	pp36-41
Have the impacts been assessed?	√	pp36-41
Checklist of Measures		
Have options been considered?	√	pp24-35
How many options considered?	√ - (17)	pp24-35
Transport impacts assessed?	√	pp24-35
Have air quality impacts been assessed modelled or measured?	Qualitative at draft stage	pp24-35
Have socio-economic impacts been assessed?	x	
Have other environmental impacts been assessed?		
Have costs been considered?	√	pp36-41
Appropriateness and Proportionality		
Do measures seem appropriate to the problem?	√	
Have the measures been assessed?	√ - Qualitative at draft stage	pp36-41
Are the measures likely to succeed?	Detailed work to be undertaken	
Have wider impacts been assessed?	x	
Was the costing method appropriate?	√	pp36-41
Is it likely that the AQMA objective will be met?	Detailed work to be undertaken	
Do the chosen options comply with Government Policies?	√	pp24-35
Implementation		
Are measures realistic?	√	
Have responsibilities been assigned to the relevant party?	√	pp36-41
Does the assigned party have the necessary powers?	√	pp36-41
Is the financing secure and identify who pays?	x - Not all funding secured at this stage	pp36-41

9 Glossary of Terms

Abbreviation	Full name
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
BAT	Best Available Technology
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
HDV	Heavy Duty Vehicles
HGV	Heavy Goods vehicles
IDP	Infrastructure Delivery Plan
LAQM	Local Air Quality Management
LDD	Local Development Documents
LDF	Local Development Framework
LDV	Light Duty Vehicles
LEZ	Low Emission Zone
LGV	Light Goods Vehicles
LSP	Local Strategic Partnership
LTP	Local Transport Plan
N&BBC	Nuneaton & Bedworth Borough Council
NAQS	National Air Quality Strategy
NO_2	Nitrogen dioxide
NOx	Oxides of nitrogen
NSCA	National Society for Clean Air
PM_{10}	Fine particle matter less than 10µm diameter
ppb	Parts per billion
QBC	Quality Bus Corridor
SCI	Statement of Community Involvement
$\mu g/m^3$	Micrograms per cubic metre
UTMC	Urban Traffic Management Control
VMS	Variable Message Signage
WCC	Warwickshire County Council

10 References

Defra (2002) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, The Stationery Office

Defra (2009) Policy Guidance LAQM.PG(09)

Defra (2009) Technical Guidance LAQM.TG(09)

Defra in Partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, The Stationery Office

Defra (2007) The Air Quality Standards Regulations 2007, Statutory Instrument No 64, The Stationary Office

DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working together for Clean Air, The Stationery Office

DETR (2000) The Air Quality Regulations 2000, The Stationery Office

DOE (1997) The United Kingdom National Air Quality Strategy, The Stationery Office

Nuneaton & Bedworth Borough Council (2006) Nuneaton & Bedworth Borough Local Plan (2006)

Nuneaton and Bedworth Local Strategic Partnership (2007) Sustainable Community Plan 2007 – 2021 for Nuneaton and Bedworth

NSCA (2000) Air Quality Action Plans

NSCA (2001) Air Quality: Planning for Action

Warwickshire County Council (2001) Local Transport Plan 2001/2 – 2005/6

Warwickshire County Council (2006) Local Transport Plan 2006– 2011

West Midlands Regional Assembly (2004) West Midlands Regional Spatial Strategy)

Consultation with internal Departments within N&BBC and with partners WCC, have led to the formulation of this Action Plan.