



**2012 Lutterworth Air Quality Further Assessment**  
**for**  
**Harborough District Council**

**In fulfilment of Part IV of the Environment Act 1995**  
**Local Air Quality Management**

**Date (December 2012)**

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## Executive Summary

The main purpose of the Further Assessment is to provide authorities with an opportunity to supplement the information they have already gathered from their earlier Review and Assessment work.

The further assessment looked at whether the area declared following the detailed assessment was correct and attempted to apportion the nitrogen dioxide contributed by road traffic between different types of vehicles.

The further assessment found that :

- the AQMA needs to be extended along Rugby Road,
- Annual Average Daily traffic (AADT) is ~15,000 vehicle movements;
- HGV's make up ~6% of AADT and contribute 40-45% of Nitrogen Dioxide (NO<sub>2</sub>);
- cars make up ~85% of AADT and contribute 45-50% of NO<sub>2</sub>;
- there is a correlation between total number of hourly vehicle movements and hourly average NO<sub>2</sub> Concentration; and
- there is no correlation between hourly HGV movements and hourly average NO<sub>2</sub> concentration

therefore Harborough District council must

- make an order amending the AQMA
- publish an action plan taking account of the impact of different types of traffic on NO<sub>2</sub> concentration

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# 1 Introduction

This Air Quality Action Plan has been developed in recognition of the legal requirement on the local authority to work towards air quality objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part. It summarises the air quality review and assessments that have been undertaken in Lutterworth to date, focussing on exceedences of the Air Quality Standards, and outlining the mechanisms and the targeted measures proposed by Harborough District Council that aim to improve local air quality. The plan focuses on air quality within Lutterworth, where an Air Quality Management Area (AQMA) came into force in 2001 as a result of elevated concentrations of nitrogen dioxide (NO<sub>2</sub>).

## 1.1 Description of Local Authority Area

Harborough District Council is a diverse, largely rural authority covering approximately 590 Km<sup>2</sup> (230 mi<sup>2</sup>) of Southern Leicestershire, as shown in Figure. 1. Geographically it is the largest of the Leicestershire districts. Approximately 83,400 people (estimated June 2009 by The Office for National Statistics [34]) live within the District.

The two major population centres are the market towns of Market Harborough and Lutterworth, providing the main shopping and business services. These two towns, together with the villages of Thurnby, Bushby and Scraftoft adjoining Leicester City, and the villages of Broughton Astley, Great Glen, Kibworth and Fleckney accommodate 67% of the district population. The remaining residents live in villages varying from populations of several hundreds to hamlets comprising of a handful of dwellings.

The District borders on to the suburbs of Leicester to the north, Rutland to the east, Warwickshire to the west and Northamptonshire to the south.

Located at the heart of England, Harborough District has excellent communication links. The M1, M6 “Catthorpe” interchange connects Harborough District to Felixstowe, Birmingham, London and Edinburgh.

The M1 and M6 and A14 are all identified on the Trans-European Network. The A5, A6, A5199 and A47 also run through the district which are a major part of the East Midlands road network and consequently are heavily used.

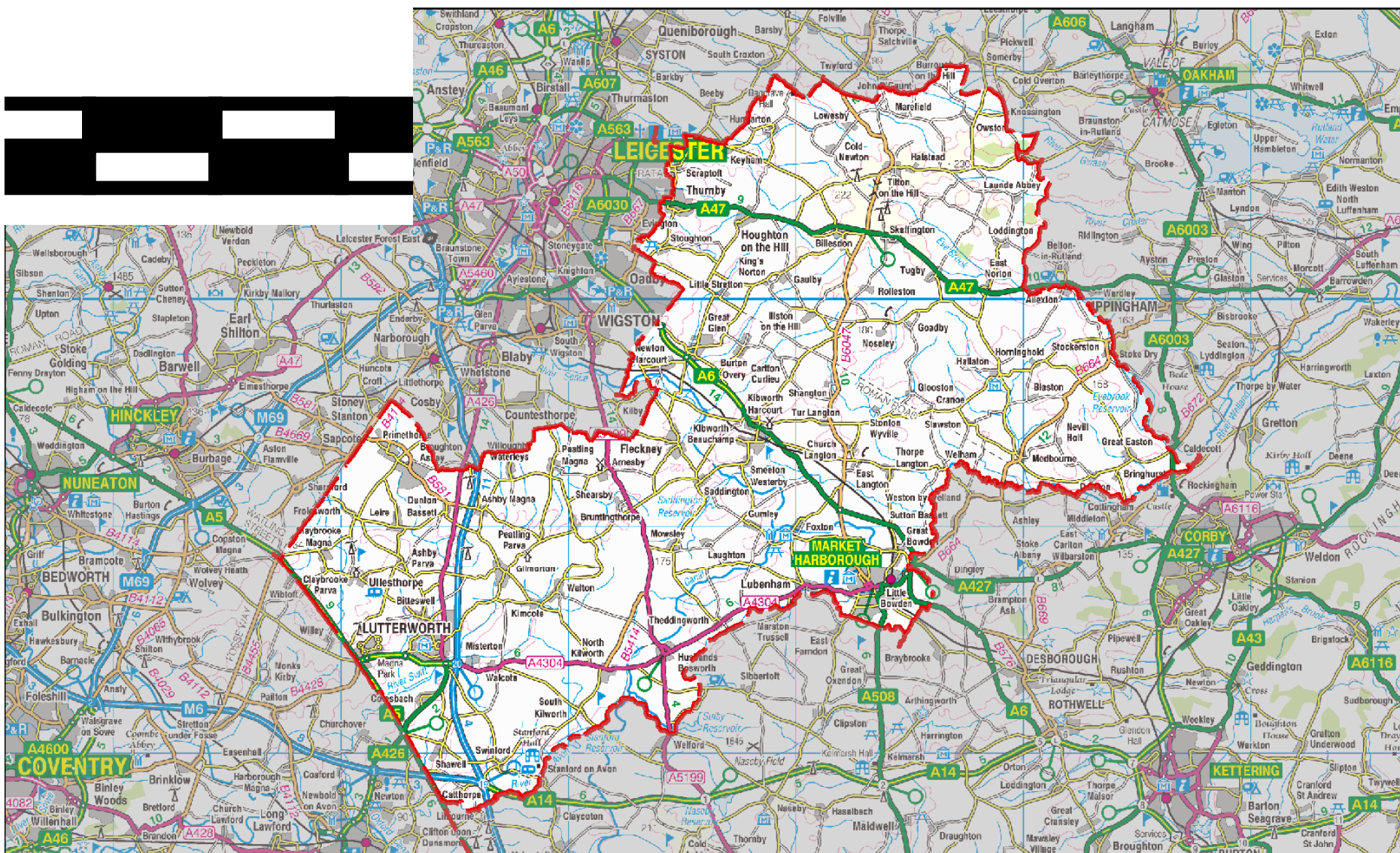
The Midland Main Line railway runs through the district and Market Harborough has an Inter-City station with direct links to London St. Pancras.

These good communication links have encouraged a number of industrial estates to develop, containing medium sized businesses carrying out a range of coating and spraying activities, moulding, and timber processes. In the south west of the District there is a cluster of mineral activities including sand and gravel extraction, cement batching plants and other associated products.

Although agriculture still plays an important role in the local economy, manufacturing and distribution are of ever increasing importance. At the extreme western side of the District is Magna Park, which is a major warehousing and distribution site, covering approximately 2.3Km<sup>2</sup> (0.9 square miles). A number of the major manufacturers within the UK are located on this site and the 24-hour operation results in a great deal of traffic as most of the products are transported by road. Magna Park is located between the M1 and the A5, therefore a majority of the traffic is directed onto these major roads; however the nearby town of Lutterworth is affected by the increase in road traffic.



Figure. 1. Map of the Local Authority Area



## 1.2 Purpose of the Further Assessment

Section 84(1) of the Environment Act 1995 as amended, requires authorities to complete a Further Assessment within 12 months of designating an Air Quality Management Area (AQMA). The main purpose of the Further Assessment is to provide authorities with an opportunity to supplement the information they have already gathered from their earlier Review and Assessment work.

The Further Assessment is intended to allow authorities to:

- confirm their original assessment, and thus ensure they were correct to designate an AQMA in the first place;
- calculate more accurately what improvement in air quality, and corresponding reduction in emissions, would be required to attain the air quality objectives within the AQMA;
- refine their knowledge of sources of pollution, so that the air quality Action Plan may be appropriately targeted;
- take account of any new guidance issued by Defra and the Devolved Administrations, or any new policy developments that may have come to light since declaration of the AQMA;
- take account of any new local developments that were not fully considered within the earlier Review and Assessment work. This might, for example, include the implications of new transport schemes, commercial or major housing developments etc, that were not committed or known of at the time of preparing the Detailed Assessment;
- Carry out additional monitoring to support the conclusion to declare the AQMA;

- Corroborate the assumptions on which the AQMA has been based, and to check that the original designation is still valid, and does not need amending in any way; and
- Respond to any comments made by statutory consultees in respect of the Detailed Assessment.

### 1.3 Report Contents and Structure

The report will overview air quality and traffic data collected in and around Lutterworth over the last 5 years.

### 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)[2],
- the Air Quality (England) (Amendment) Regulations 2002 (SI2002/No.3043)[3],
- The Air Quality Standards Regulations 2007 (SI2007/No.0064)[4], and
- The Air Quality Standards Regulations 2010 (SI2010/No.1001)[5].

They are shown in Table 1 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 $\mu\text{gm}^{-3}$	Running annual mean	2003
	5.00 $\mu\text{gm}^{-3}$	Running annual mean	2010
1,3-Butadiene	2.25 $\mu\text{gm}^{-3}$	Running annual mean	2003
Carbon monoxide	10.0 $\text{mgm}^{-3}$	Running 8-hour mean	2003
Lead	0.5 $\mu\text{gm}^{-3}$	Annual mean	2004
	0.25 $\mu\text{gm}^{-3}$	Annual mean	2008
Nitrogen dioxide	200 $\mu\text{gm}^{-3}$ not to be exceeded more than 18 times a year	1-hour mean	2005

Pollutant	Concentration	Measured as	Date to be achieved
	40 $\mu\text{gm}^{-3}$	Annual mean	2005
Particles (PM <sub>10</sub> ) (gravimetric)	50 $\mu\text{gm}^{-3}$ , not to be exceeded more than 35 times a year	24-hour mean	2004
	40 $\mu\text{gm}^{-3}$	Annual mean	2004
Sulphur dioxide	350 $\mu\text{gm}^{-3}$ , not to be exceeded more than 24 times a year	1-hour mean	2004
	125 $\mu\text{gm}^{-3}$ , not to be exceeded more than 3 times a year	24-hour mean	2004
	266 $\mu\text{gm}^{-3}$ , not to be exceeded more than 35 times a year	15-minute mean	2005

## 1.5 Summary of Previous Review and Assessments

The Review and Assessment of the local air quality takes place over a number of stages. The First Stage Review and Assessment [26] carried out in Harborough district concluded that further investigation would be required for Carbon Monoxide, Lead, Particulates and Nitrogen Dioxide. The Second and Third Stage review [25] concluded that with the exception of Nitrogen Dioxide all of the National Air Quality Standards would be met within the appropriate time frame. As it was anticipated that the national objective for Nitrogen Dioxide was unlikely to be met in Lutterworth Town Centre, an Air Quality Management Area (AQMA) was declared in July 2001.[6] Figure. 2.

Following the declaration of the Air Quality Management Area a Stage 4 assessment [21] was required to give the council the opportunity to supplement any information already gathered in earlier review and assessment work.

The findings of the Stage 4 assessment confirmed that the annual average National Air Quality Objective for Nitrogen Dioxide was unlikely to be achieved. New Monitoring Data confirmed the source of the problem was traffic related, then an Action Plan [22] was developed which was incorporated into the Leicestershire County Council Local Transport Plan 2.

In 2009 the Council undertook an update and screening assessment [16] which found that generally the air quality in Harborough district is very good; however the air quality in Lutterworth remains high and exceeds the national air quality objective. During 2008 it became apparent that the diffusion tubes in the area were showing a potential exceedence of the objective levels outside of the existing Air Quality Management Area (AQMA). It was necessary to relocate some of the diffusion tubes to confirm the initial findings, and was recommended that a detailed assessment of Lutterworth high street would be required to confirm whether the existing AQMA needs to be extended.

A detailed assessment of Lutterworth was conducted in 2010 [12]. The assessment found that the AQMA did not require extension to the north of the currently declared area but that the air quality standard was being exceeded to the south of the currently declared area. In order to improve the data for the further assessment of the proposed extension to the AQMA it was necessary for several NO<sub>2</sub> diffusion tubes to be relocated.

Figure. 2. Map of AQMA Boundary

## 2 Data handling and modelling

### 2.1 Façade Correction

Some diffusion tubes have undergone a façade correction (presented in **Error! Reference source not found.**) the corrections were undertaken using the procedure outlined in Box 2.3: Predicting nitrogen dioxide concentrations at different distances from road of the technical guidance [9] (reproduced in Figure. 3 for reference).

Figure. 3. Box 2.3: Predicting nitrogen dioxide concentrations at different distances from road of the technical guidance [9]

**Box 2.3: Predicting nitrogen dioxide concentrations at different distances from roads**

A method has been developed to allow NO<sub>2</sub> measurements made at one distance from a road to be used to predict concentrations at a different distance from the same road. It is appropriate for distances between 0.1 m and 140 m of the kerb.

**Step 1:** Identify the local background concentration in µgm<sup>-3</sup>, either from local monitoring or from the national maps published at <http://laqm.defra.gov.uk> . (Note that the background concentration must be less than the measured concentration).

**Step 2:** apply the following calculation

$$C_z = \left( \frac{C_y - C_b}{-0.5476 \times \ln(D_y) + 2.7171} \right) \times (-0.5476 \times \ln(D_z) + 2.7171) + C_b$$

Where:

- C<sub>z</sub> is the total predicted concentration (µgm<sup>-3</sup>) at distance D<sub>z</sub>;
- C<sub>y</sub> is the total measured concentration (µgm<sup>-3</sup>) at distance D<sub>y</sub>;
- C<sub>b</sub> is the background concentration (µgm<sup>-3</sup>);
- D<sub>y</sub> is the distance from the kerb at which concentrations were measured; and
- D<sub>z</sub> is the distance from the kerb (m) at which concentrations are to be predicted.

Ln(D) is the natural log of the number D.

Results derived in this way will have a greater uncertainty than the measured data. Further assistance with this procedure and interpretation of the results can be obtained from the Review and Assessment helpdesk (<http://laqm.defra.gov.uk/helpdesks.html>).

**Calculator**

The equation above is available as a simple calculator (available at <http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>) . This is set up to work from 0.1 to 50 m from the kerb, as this is the range that is likely to be relevant for Local Air Quality Management (LAQM) work. Kerbside sites should be treated as being at 0.1 m from the kerb. The calculator works for receptors either closer to or further from the kerb than the monitor. The greater the distance between the receptor and monitor, the greater the uncertainty in the derived receptor concentration. It is therefore recommended that if the receptor is further from the kerb than the monitor it should be no more than 20 m away. If the receptor is closer to the kerb, then it should be no more than 10 m from the monitor.

Modified from Box 2.3 page 2-6 of the technical Guidance 2009 [9] (modification are improved layout of equation and insertion and update of hyperlinks where footnotes are present in the original.



## 2.2 Annualisation

Where data does not cover the whole year it is possible to estimate the annual mean using the method in Box 3.2 Estimation of annual mean concentrations from short-term monitoring data of the technical guidance [9] (reproduced in Figure. 4 for reference).

Figure. 4. Estimation of annual mean concentrations from short-term monitoring data

**Box 3.2: Estimation of annual mean concentrations from short-term monitoring data**

**Example**  
 It has only been possible to carry out a monitoring survey (automatic or diffusion tube) at site **S** for six months between July and December 2008. The measured mean concentration **M** for this period is  $30.2\mu\text{gm}^{-3}$ . How can this be used to estimate the annual mean for this location?

**Adjustment to estimate annual mean**  
 The adjustment is based on the fact that patterns in pollutant concentrations usually affect a wide region. Thus if a six month period is above average at one place it will almost certainly be above average at other locations in the region. The adjustment procedure is as follows:

1. Identify two to four nearby, long-term, continuous monitoring sites, ideally those forming part of the national network. These should be background sites to avoid any very local effects that may occur at roadside sites, and should, wherever possible lie within a radius of about 50 miles.
2. Obtain the annual means, **Am**, for the calendar year for these sites, 2008 in this example.
3. Work out the period means, **Pm**, for the period of interest, in this case July to December 2008. [It may be necessary to use unratified automatic data.]
4. Calculate the ratio, **R**, of the annual mean to the period mean  $\left(\frac{Am}{Pm}\right)$  for each of the sites.
5. Calculate the average of these ratios, **R<sub>a</sub>**. This is then the adjustment factor.
6. Multiply the measured period mean concentration **M** by this adjustment factor **R<sub>a</sub>** to give the estimate of the annual mean for 2008.

Long term site	Annual mean 2008 (Am)	Period Mean 2008 (Pm)	Ratio $\left(\frac{Am}{Pm}\right)$
A	28.6	29.7	0.963
B	22.0	22.8	0.965
C	26.9	28.9	0.931
D	23.7	25.9	0.915
<b>Average (R<sub>a</sub>)</b>			<b>0.944</b>

For this example the best estimate of the annual mean for site **S** in 2008 will be

$$\begin{aligned}
 S &= M \times R_a \\
 &= 30.2 \times 0.944 \\
 &= 28.5\mu\text{gm}^{-3}
 \end{aligned}$$

**Notes**

- Monitoring data for the long-term sites must have adequate data capture rates: above 90% is preferable; sites with data capture below 75% should not be used.
- It may be appropriate to use diffusion tube results from a long-term survey to adjust short-term diffusion tube results. To allow for the greater uncertainty of diffusion tubes results from four or more sites should be used. Ensure that the tubes are from the same supplier using the same method of preparation.
- If the short-term period covers, for instance, February to June 2009, and the work is being carried out in August 2009, then an annual mean for 2009 will not be available. The calculation can then be carried out using the ratio to the 2008 annual mean, but the result is then an estimate of the 2008 annual mean at the short-term site.

Modified from Box 3.2 page 3-4 of the technical Guidance 2009 [9].



### **3 Monitoring**

Harborough District Council conducts extensive monitoring in and around the AQMA using diffusion tubes. The District council had an automatic monitor within the AQMA until 2009. The County council has a traffic counter to the south of the AQMA and on Leicester Road just north of Lutterworth.

#### **3.1 Diffusion Tube Monitoring**

The council has several locations in and around the AQMA, details of the monitoring locations are presented in Table 2 and are shown on a map in Figure. 5. The Diffusion tubes were analysed by Bureau Veritas until march 2009. Since April 2009 the Diffusion tubes were analysed by Lambeth Scientific Services.

#### **3.2 Automatic Monitoring**

The council operated an automatic monitoring station from 2001 to 2009. The station monitored Nitrogen Oxide, Nitrogen Dioxide, Oxides of Nitrogen and PM<sub>10</sub>.

#### **3.3 Traffic Monitoring**

Leicestershire County Council Highways department has 1 monitoring site on rugby road 194m to the south of the AQMA and 1 site a significant distance to the north of the AQMA

Traffic data is available for the rugby road site for 2009, 2010, 2011 and 2012, an overview of the data is presented in Table 5. .

Table 2. Details of Non- Automatic Monitoring Sites in and around the Lutterworth AQMA

National AQ archive Site details	location	Site Type	OS Grid Ref		Our Tube No.	Pollutants Monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
			X	Y						
Harborough 01n	Service Shop market street Lutterworth	Roadside	454475	284560	2	NO <sub>2</sub>	Y	0	4.2	Y
Harborough 05n	Regent Rd/ stony hollow/ high St crossroads Lutterworth	Roadside	454418	284303	1	NO <sub>2</sub>	Y	21	4.3	N
Harborough 06n	Monitoring Station market St Lutterworth	Roadside	454476	284541	5	NO <sub>2</sub>	Y	0	2.6	Y
Harborough 18n	Jazz Hair high St Lutterworth	Roadside	454443	284348	17	NO <sub>2</sub>	N	0	3	Y
Harborough 23n	6 The Terrace Rugby Rd Lutterworth	Roadside	454428	284274	1	NO <sub>2</sub>	Y	0	2.5	Y
Harborough 24n	4-9 regent court Lutterworth	Roadside	454410	284326	4	NO <sub>2</sub>	Y	0	16.25	Y
Harborough 25n	26 Market St Lutterworth	Roadside	454497	284618	5	NO <sub>2</sub>	Y	1.6	4.8	Y
Harborough 11n	Day Nursery Leicester Rd Lutterworth	Roadside	454539	284932	10	NO <sub>2</sub>	N	9	1.3	N
Harborough 20n	3 Leicester Rd Lutterworth	Roadside	454527	284805	4	NO <sub>2</sub>	N	13.7	1.9	Y
Harborough 21n	19 Leicester Rd Lutterworth	Roadside	454551	285430	13	NO <sub>2</sub>	N	13.6	3.3	Y
Harborough 22n	77 Leicester Rd Lutterworth	Roadside	454533	284872	9	NO <sub>2</sub>	N	0	13.5	Y
Harborough 26n	24 Rugby Rd Lutterworth	Roadside	454432	284229	13	NO <sub>2</sub>	N	0	2	Y
Harborough 27n	17 Rugby Rd Lutterworth	Roadside	454476	284178	7	NO <sub>2</sub>	N	3.7	5.2	Y

Table 3. Automatic Monitoring site details.

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	Monitoring Technique	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
		X	Y						
Lutterworth	Roadside	454473	284544	NO <sub>2</sub>	Gas-phase chemilluminescence (ML9841B Nitrogen Oxides Analyzer)	Yes	10m	3m	Y
				NO					
				NO <sub>x</sub>					
				PM <sub>10</sub>	TEOM				

Table 4. Traffic count site details

Site Name	Site Number	OS Grid Ref		Manufacturer	Type
		X	Y		
Rugby Road, S of Riverside Rd, Lutterworth (pro)	00021229	454522	284063	CA Traffic	Profiler (Type F) v4.32
Leicester Road, N of Bill Crane, Lutterworth (pro)	00021228	454550	286098	CA Traffic	Loop Profiler v1.65

Table 5. Overview of Traffic Data

Year	Percent data coverage	AADT	Cars %	LGV %	HGV %	Buses %	Motorcycles %
2009	62.21	13073	85.94	7.42	6.03	0.17	0.44
2010	100	15388	84.26	8.70	6.34	0.18	0.49
2011	100	15530	84.72	8.41	6.13	0.22	0.51
2012 (partial)	59.84	15426	84.70	8.47	6.09	0.24	0.50

## 4 Data Analysis

The monitoring data has shown that the AQMA has exceeded the annual mean air quality standard for NO<sub>2</sub> (shown in Figure. 6) since 2005.

Tubes Harborough 26n and 27n were placed as a result of the 2010 detailed assessment of Lutterworth AQMA to further clarify the southern extent of the AQMA. Both tubes exceeded the annual mean air quality standard for nitrogen dioxide (NO<sub>2</sub>).

### 4.1 Harborough 26n

Tube Harborough 26N is not placed on the façade of the property however its location is analogous with the facade of the The Coach House, Rugby road which is within the boundary of the AQMA.

When a façade correction (Background of 16.67 µg m<sup>-3</sup> was used) is applied in order to estimate the exposure at 24 Rugby Road in 2010 the exposure is estimated to be 30.89 µg m<sup>-3</sup>. In 2011 the exposure is estimated to be 31.8 µg m<sup>-3</sup>. 24 Rugby Road is not exceeding the annual mean air quality standard.

When a façade correction (Background of 16.67 µg m<sup>-3</sup> was used) is applied in order to estimate the exposure at Wood Bank Rugby Road in 2010 the exposure is estimated to be 38.48 µg m<sup>-3</sup>. In 2011 the exposure is estimated to be 39.89 µg m<sup>-3</sup>. Wood Bank Rugby Road may be exceeding the annual mean air quality standard.

### 4.2 Harborough 27n

Tube Harborough 27N is not placed on the façade of the property however its location is suitable for facade correction to estimate the exposure of 17, Rugby Road (Background of 16.67 µg m<sup>-3</sup> was used)

In 2010 the exposure is estimated to be 38.59 µg m<sup>-3</sup>. In 2011 the exposure is estimated to be 33.52 µg m<sup>-3</sup>. 17 Rugby Road may be exceeding the annual mean air quality standard.

## 4.3 Traffic Data

Traffic data, presented in Table 5, shows that annual average daily (aad) traffic flow is approximately 15000, HGV's make up approximately 6% of the vehicle movements through Rugby Road

Figure. 5. Map of Monitoring Sites in and around Lutterworth AQMA

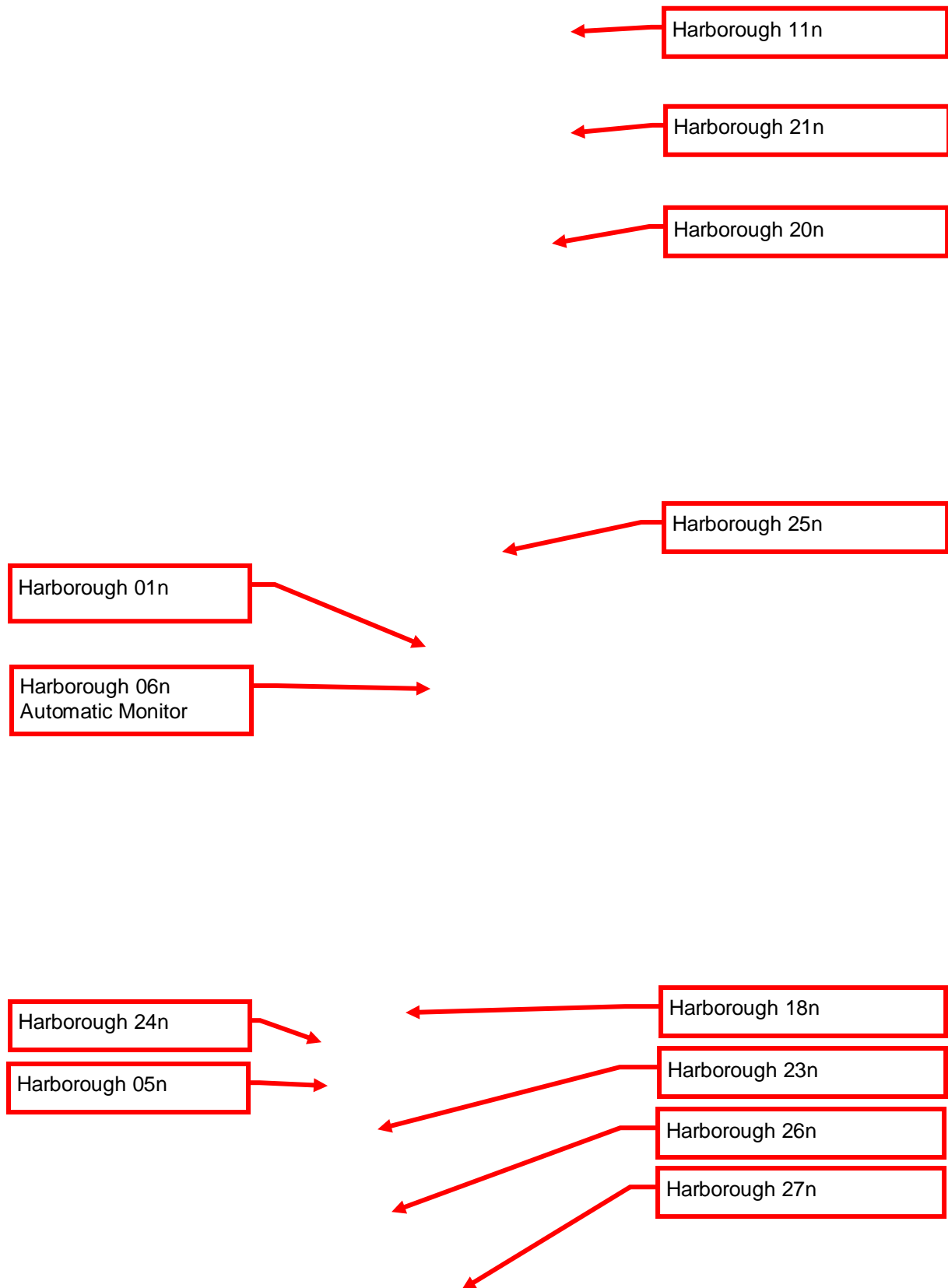
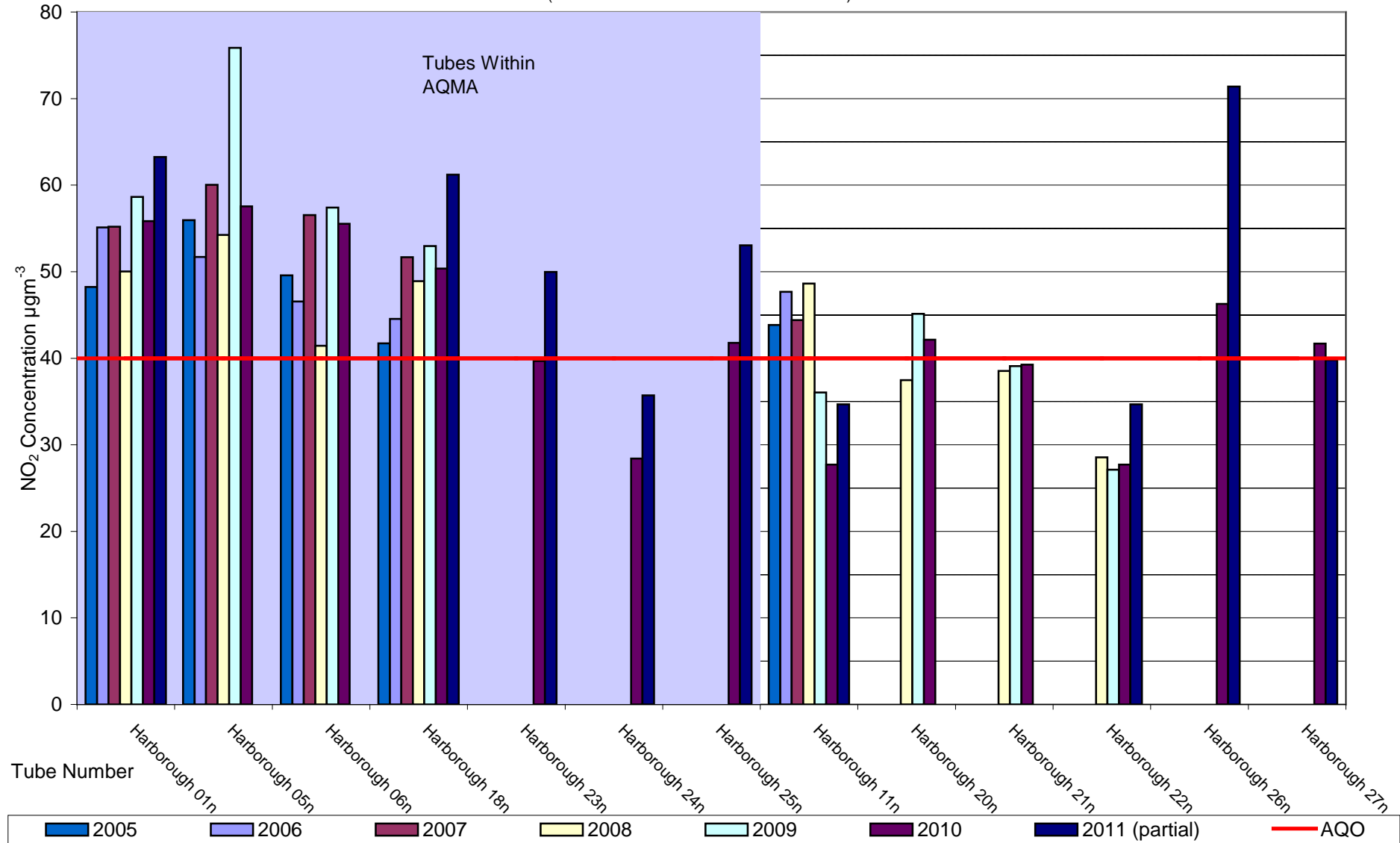


Figure. 6. Graph of NO<sub>2</sub> trends at monitoring locations in and around the AQMA  
 Trend in Diffusion Tube NO<sub>2</sub> Concentration  
 (annualised values used where calculated)



#### 4.4 Comparing traffic volume with NO<sub>2</sub> concentration

Plotting traffic volumes against allows any correlation between number and types of vehicle to be shown Figure. 7 and Figure. 9 compare number of car movements per hour and number of HGV movements per hour with hourly average NO<sub>2</sub> concentration in 2009 respectively. No correlation between the either the number of car or number of HGV movements is evident on a normal plot. Figure. 11 compares total vehicle movements per hour with hourly average NO<sub>2</sub> concentration again no correlation is evident

When Traffic movements are plotted on a logarithmic scale as in Figure. 8, Figure. 10 and Figure. 12. Some minor correlation with both car movements and total vehicle movements (Figure. 8 and Figure. 12 respectively) can be made though there are significant deviations from the line of best fit in both data sets.



Figure. 7. Graph comparing Hourly car movements with Hourly NO<sub>2</sub> Concentration

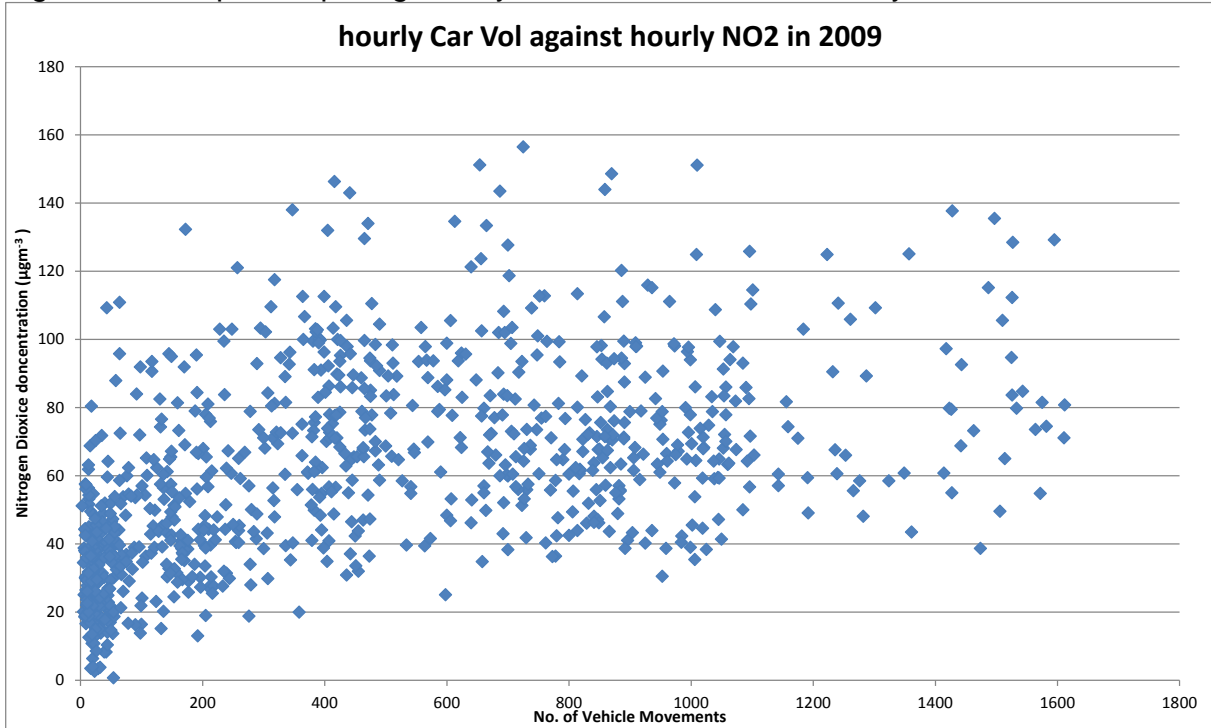


Figure. 8. Graph comparing Hourly car movements(logarithmic) with Hourly NO<sub>2</sub> Concentration

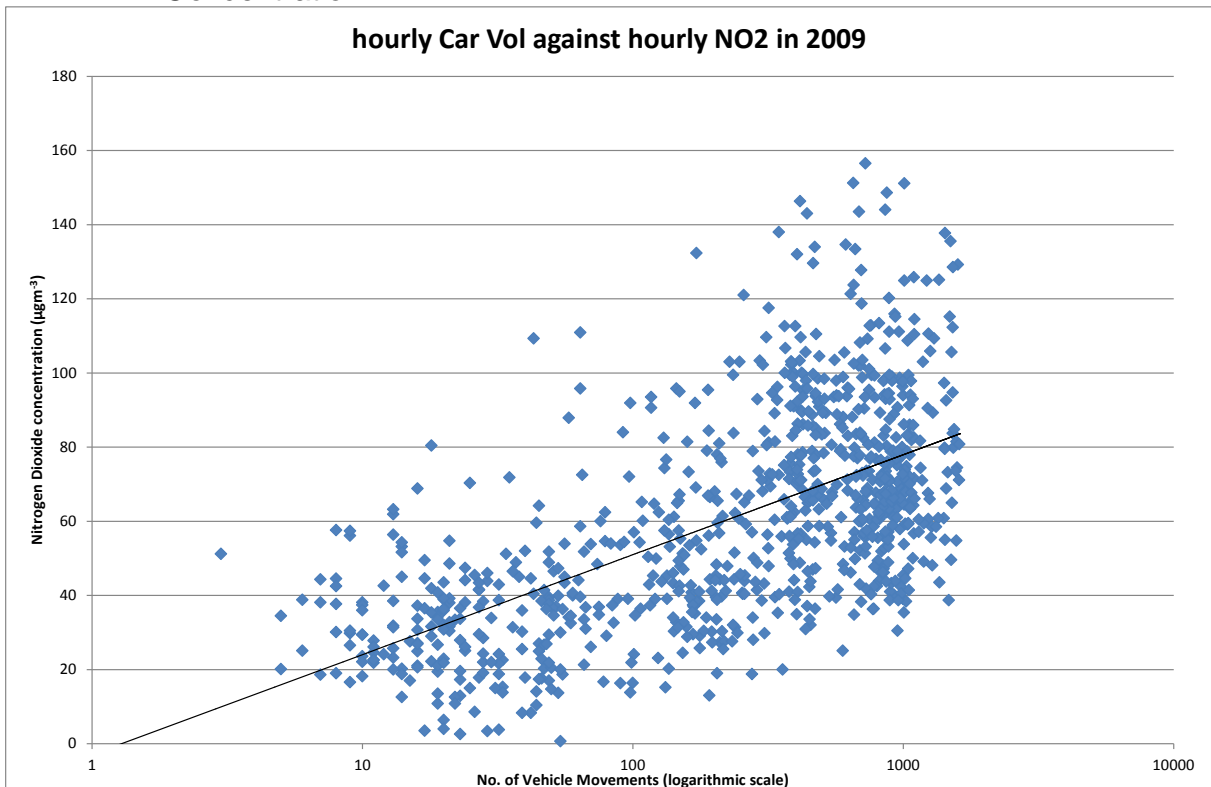


Figure. 9. Graph Comparing Hourly HGV movements with Hourly NO<sub>2</sub> Concentration

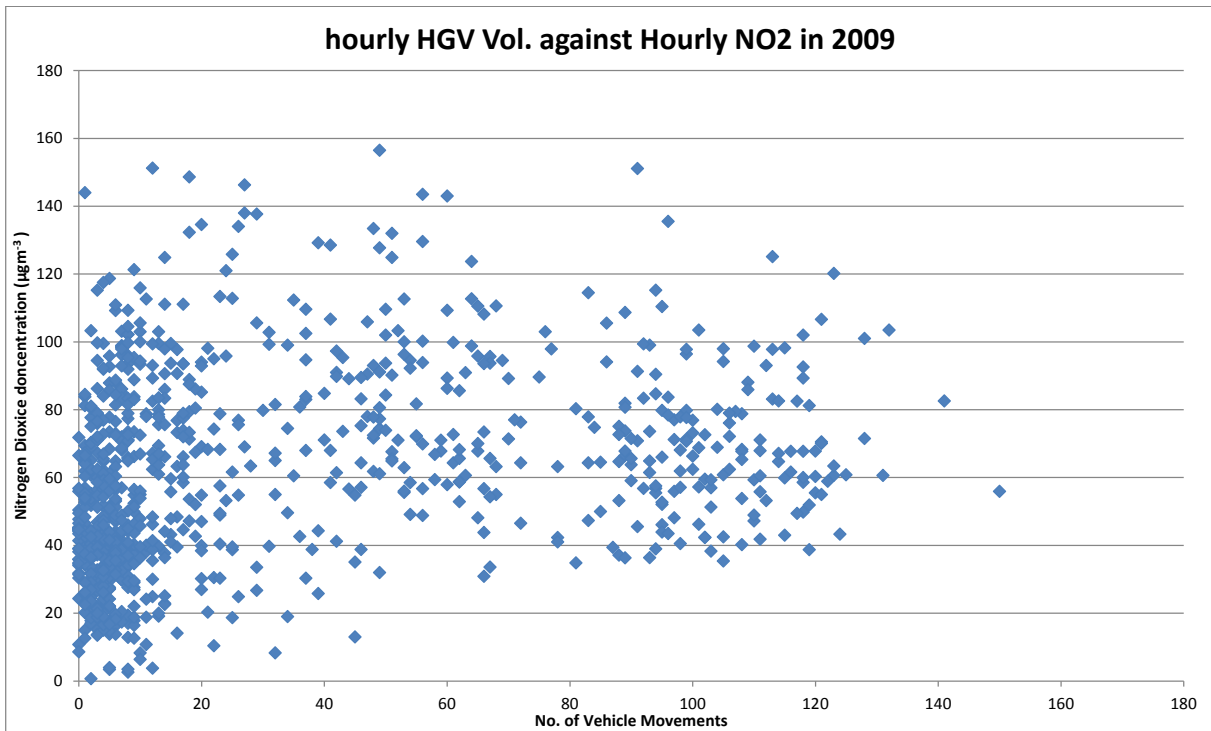


Figure. 10. Graph Comparing Hourly HGV movements (logarithmic) with Hourly NO<sub>2</sub> Concentration

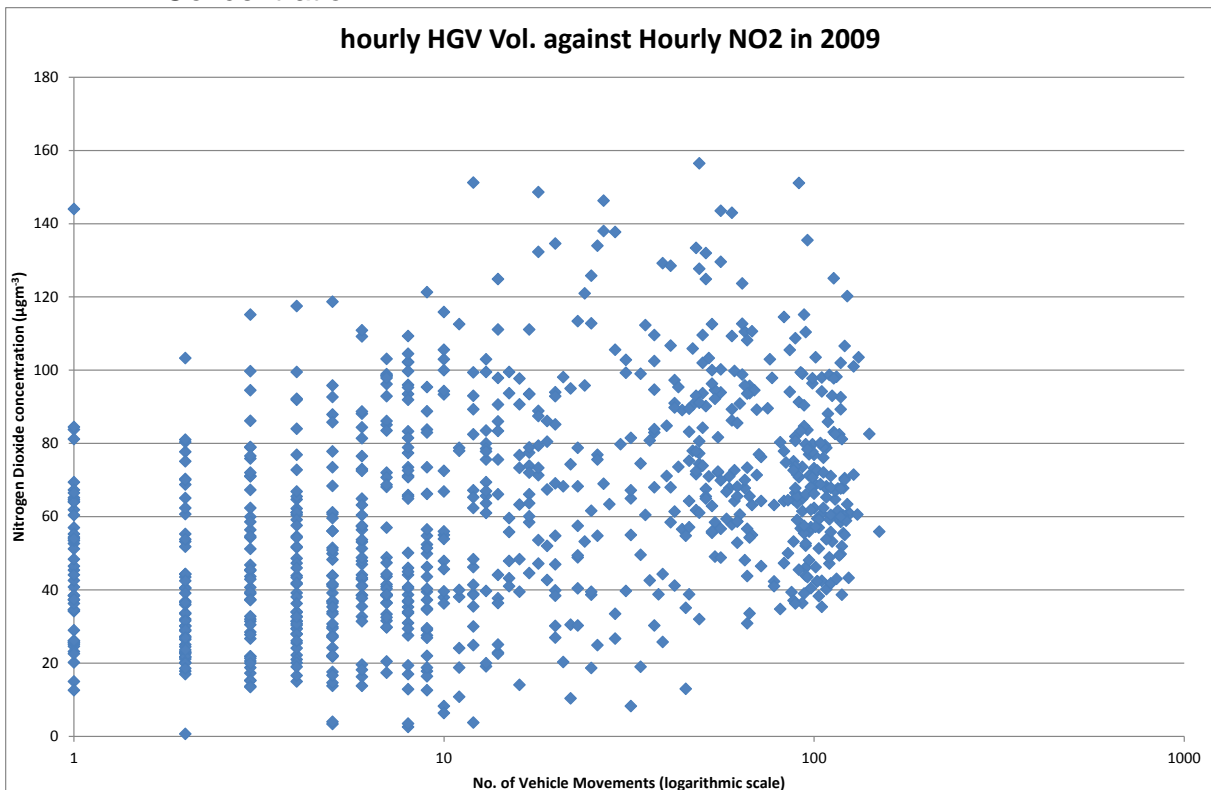


Figure. 11. Graph Comparing Total Hourly Traffic movements with Hourly NO<sub>2</sub> Concentration

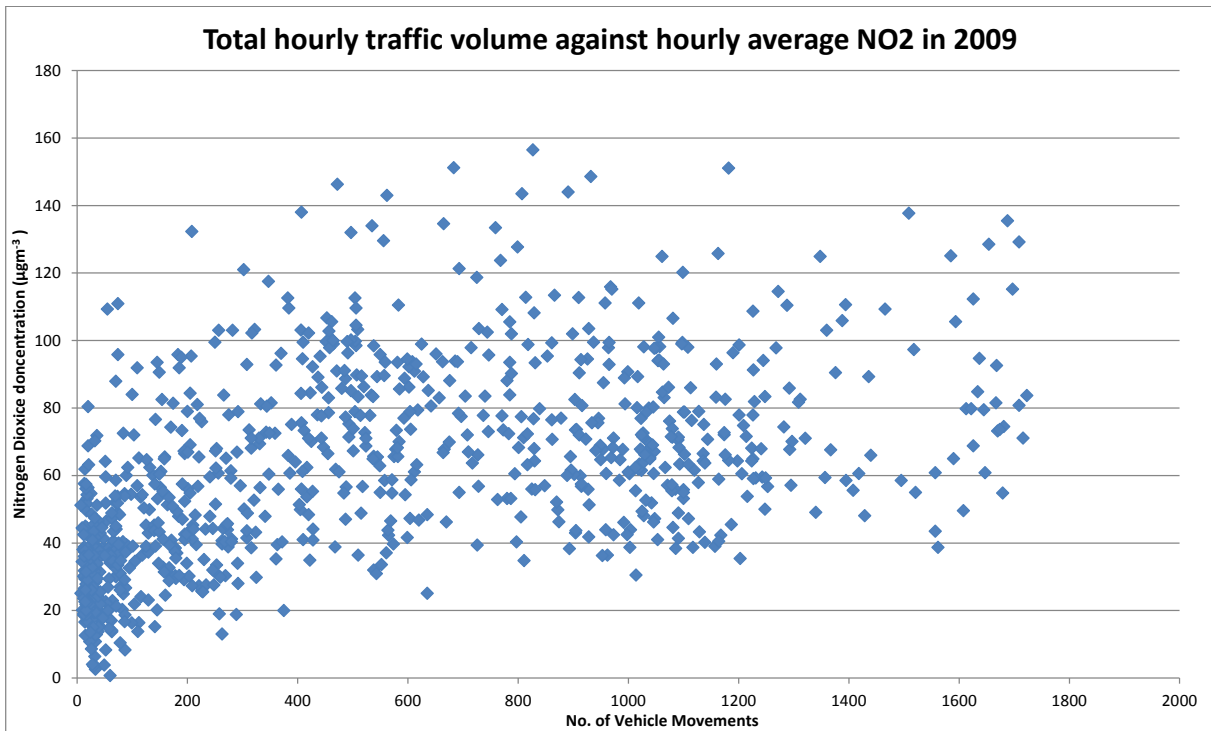
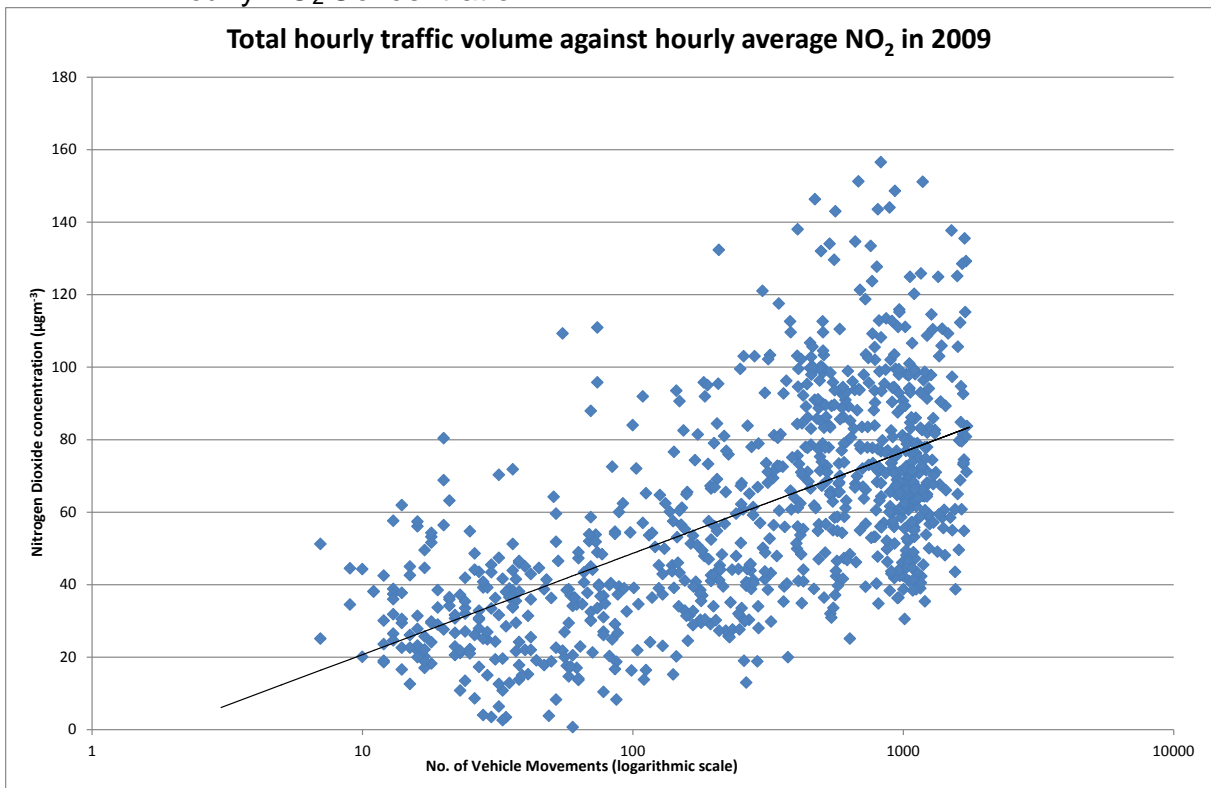


Figure. 12. Graph Comparing Total Hourly Traffic movements (Logarithmic) with Hourly NO<sub>2</sub> Concentration



## 4.5 Source Apportionment

Defra and the Devolved administrations have provided an Emission Factor toolkit (now in version 5.1.3) [ETFv513] which uses NO<sub>x</sub> emissions factors based on COPERT 4 v8.1 published by the European Environment Agency (<http://www.emiaia.com/copert>) this allows the NO<sub>x</sub> contribution from traffic to be further proportioned out by vehicle type.

Information on the speed traffic is travelling along the road link being assessed is required by EFTv513 this data is currently unavailable from Leicestershire County Council Highways department. The speed Limit along High Street and Market Street is 30mph. it is likely the actual average speed along High Street and Market Street is below this as a result of congestion. The model has therefore been run at 30mph and at 15mph as it is envisaged the actual average speed along High Street and Market Street is probably between these values. The results of the model are presented in Table 6.

Table 6. Results of the Emission factor toolkit v5.1.3 for NO<sub>x</sub>

Year	Source Apportionment @15mph					Source Apportionment @30mph				
	car	LGV	HGV	Buses	Motorcycles	car	LGV	HGV	Buses	Motorcycles
2009	45.2%	8.0%	45.1%	1.6%	0.1%	50.0%	7.8%	40.8%	1.4%	0.1%
2010	43.1%	9.1%	46.1%	1.7%	0.1%	47.8%	8.9%	41.8%	1.4%	0.1%
2011	43.8%	8.9%	45.1%	2.1%	0.1%	48.6%	8.7%	40.9%	1.7%	0.1%
2012	43.8%	9.0%	44.8%	2.3%	0.1%	48.6%	8.8%	40.6%	1.9%	0.1%

HGVs and cars are the major contributors of NO<sub>x</sub> both contributing more than 40% of NO<sub>x</sub> each.

## 5 Conclusions

It is evident that air quality problems along Rugby Road, High Street and Market Street are a result of the volume of traffic as show in section 4.4. There is no correlation between the number of HGV movements and elevated levels of NO<sub>2</sub>.

The correlation between total traffic volume and reduced air quality suggests that methods to either reduce total traffic volume or improve traffic flow will have an impact.

Source apportionment has shown that Cars and HGV's have the largest impact on air quality within the AQMA together contributing over 80% of NO<sub>x</sub>.

While HGVs constitute only 6% of vehicle movements they contribute over 40% of NO<sub>x</sub> therefore there will be a greater impact on air quality per vehicle reduction in HGV's than per vehicle reduction in cars.

An area to the south of the AQMA may be exceeding the annual mean air quality standard for NO<sub>2</sub>. This possibility was identified in the 2010 detailed assessment of the Lutterworth AQMA.

## 6 Proposed Actions

- Extend the Area of the AQMA to include the area along Rugby Road which may be exceeding the annual mean air quality standard for NO<sub>2</sub>. A draft amendment order is included in 0
- Publish an updated air quality action plan taking account of the traffic sourced pollution

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# 8 Appendices

### Appendix A. Input and output Data for the Emission Factor Toolkit v5.1.3

SourceID	Road Type	Input Data									Air Quality Model (g/km/s)											Source Apportionment					
		Traffic Flow	% Car	% Taxi (black cab)	% LGV	% HGV	% Bus and Coach	% Motorcycle	Speed(kph)	No of Hours	All Vehicle (g/km/s)	All LDV (g/km/s)	All HDV (g/km/s)	Petrol Cars (g/km/s)	Diesel Cars (g/km/s)	Taxi (g/km/s)	Petrol LGV (g/km/s)	Diesel LGV (g/km/s)	Rigid HGV (g/km/s)	Artic HGV (g/km/s)	Buses/Coaches (g/km/s)	Motorcycles (g/km/s)	car	LGV	HGV	Buses	Motorcycles
2009 @15mph	Urban (not London)	13073	85.94	0	7.42	6.03	0.17	0.44	24.14	24	0.149	0.079	0.070	0.035	0.032	0	0.001	0.011	0.048	0.019	0.002	0.000	45.2%	8.0%	45.1%	1.6%	0.1%
2010 @15mph	Urban (not London)	15388	84.26	0	8.70	6.34	0.18	0.49	24.14	24	0.181	0.094	0.086	0.041	0.037	0	0.001	0.016	0.060	0.024	0.003	0.000	43.1%	9.1%	46.1%	1.7%	0.1%
2011 @15mph	Urban (not London)	15530	84.72	0	8.41	6.13	0.22	0.51	24.14	24	0.180	0.095	0.085	0.041	0.038	0	0.001	0.015	0.058	0.023	0.004	0.000	43.8%	8.9%	45.1%	2.1%	0.1%
2012 @15mph	Urban (not London)	15426	84.70	0	8.47	6.09	0.24	0.50	24.14	24	0.179	0.095	0.084	0.041	0.038	0	0.001	0.015	0.058	0.023	0.004	0.000	43.8%	9.0%	44.8%	2.3%	0.1%
2009 @30mph	Urban (not London)	13073	85.94	0	7.42	6.03	0.17	0.44	48.28	24	0.117	0.068	0.049	0.034	0.024	0	0.001	0.009	0.035	0.013	0.002	0.000	50.0%	7.8%	40.8%	1.4%	0.1%
2010 @30mph	Urban (not London)	15388	84.26	0	8.70	6.34	0.18	0.49	48.28	24	0.141	0.080	0.061	0.040	0.028	0	0.001	0.012	0.043	0.016	0.002	0.000	47.8%	8.9%	41.8%	1.4%	0.1%
2011 @30mph	Urban (not London)	15530	84.72	0	8.41	6.13	0.22	0.51	48.28	24	0.141	0.081	0.060	0.040	0.028	0	0.001	0.012	0.042	0.016	0.002	0.000	48.6%	8.7%	40.9%	1.7%	0.1%
2012 @30mph	Urban (not London)	15426	84.70	0	8.47	6.09	0.24	0.50	48.28	24	0.140	0.080	0.060	0.040	0.028	0	0.001	0.012	0.041	0.016	0.003	0.000	48.6%	8.8%	40.6%	1.9%	0.1%

## Appendix B. NO<sub>2</sub> Tube Data overview.

	location	BAF	Bias adjusted yearly arithmetic Mean								
			2003	2004	2005	2006	2007	2008	2009	2010	2011
01n	Service Shop market street Lutterworth		45.70	43.76	48.24	55.13	0.00	50.03	58.65	58.04	49.47
05n	Rugby Rd/ stony hollow/ high St crossroads Lutterworth		51.01	59.43	55.96	51.69	0.00	54.25	75.86	60.25	
06n	Monitoring Station market St Lutterworth				49.59	46.55	0.00	41.43	57.40	58.17	
18n	Jazz Hair high St Lutterworth				41.72	44.54	0.00	48.90	52.95	52.33	45.16
23n	6 The Terrace Rugby Rd Lutterworth									40.75	37.49
24n	4-9 regent court Lutterworth									29.17	26.62
25n	26 Market St Lutterworth									42.91	35.83
26n	24 Rugby Rd Lutterworth									47.54	49.53
27n	17 Rugby Rd Lutterworth									42.83	36.78

????	Value Exceeds 40µgm <sup>-3</sup>
????	Value Exceeds 36µgm <sup>-3</sup>
	Location is within AQMA
	Value is annualised in line with box as in Box 3.2 of TG(09) pg3-4,
	No Monitoring undertaken

### Appendix C. Façade correction and annualisation of diffusion tubes

2011 data

National AQ archive Site details	location	Site Type	Grid Reference		Our Tube No.	Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?	Measurement Period ( $\mu\text{g m}^{-3}$ )												BIAS =		% period coverage	% year data coverage	Façade Correction (See Box 2.3 pg 2-6 LAQM.TG(09))			
			X	Y							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	arithmetic mean ( $\mu\text{g m}^{-3}$ )	Bias adjusted arithmetic Mean ( $\mu\text{g m}^{-3}$ )			find relevant background concentration		Façade Corrected Bias Adjusted Mean ( $\mu\text{g m}^{-3}$ )	
																											X	Y		background $\text{NO}_2$ ( $\mu\text{g m}^{-3}$ )
01n	Lut. Service Shop	Roadside	454475	284560	2	NO <sub>2</sub>	Y	0	4.2	Y	62	31	53	55	38	46	52	37	56	47	47	36	46.67	49.47	100%	100%	453500	284500	17.31	
18n	Jazz Hair	Roadside	454443	284348	17	NO <sub>2</sub>	N	0	3	Y	60	40	55	51	31	33			44	41	43	28	42.60	45.16	83%	83%	453500	283500	16.67	
23n	6 The Terrace Rugby Road	Roadside	454428	284274	1	NO <sub>2</sub>	Y	0	2.5	Y	49	30	41	35	20	26	31		57	29	38	33	35.36	37.49	92%	92%	453500	283500	16.67	
24n	4-9 regent court	Roadside	454410	284326	4	NO <sub>2</sub>	Y	0	16.25	Y	35	18	31	28	15	18	24	16				41	25.11	26.62	75%	75%	453500	283500	16.67	
25n	26 Market Street Lutterworth	Roadside	454497	284618	5	NO <sub>2</sub>	Y	1.6	4.8	Y	52	27	51	44	18	30	36	25		27		28	33.80	35.83	83%	83%	453500	284500	17.31	34.26
26n	24 Rugby Road Lutterworth	Roadside	454432	284229	13	NO <sub>2</sub>	N	0	2	Y	70	38	52	41	33		46	41	52	48	54	39	46.73	49.53	92%	92%	453500	283500	16.67	
27n	17 Rugby road Lutterworth	Roadside	454476	284178	7	NO <sub>2</sub>	N	3.7	5.2	Y	39		50	39	26		28	29	39	33	36	28	34.70	36.78	83%	83%	453500	283500	16.67	33.52

2010 data

National AQ archive Site details	location	Site Type	Grid Reference		Our Tube No.	Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?	Measurement Period ( $\mu\text{g m}^{-3}$ )												BIAS =		Confidence level 80%	period length	no of results	confidence interval	% period coverage	% year data coverage
			X	Y							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	arithmetic mean ( $\mu\text{g m}^{-3}$ )	Bias adjusted arithmetic Mean ( $\mu\text{g m}^{-3}$ )	Standard Deviation					
															1.06															
82705 - Harborough 01n	Lut. Service Shop	Roadside	454475	284560	2	NO <sub>2</sub>	Y	0	4.2	Y	58	63	65	50	51	48	45	41	58	53	67	58	54.75	<b>58.04</b>	8.11	12	12	3.00	100%	100%
82708 - Harborough 03n	Brooklands (Home)	Urban background	473418	286956	3	NO <sub>2</sub>	N	N/A	N/A	Y	29	24	20	13	14	14		20	18	18	29	34	21.18	22.45	6.98	12	11	2.70	92%	92%
83024 - Harborough 05n	Lut. Rugby Road	Roadside	454418	284303	1	NO <sub>2</sub>	Y	21	4.3	N	72		64	51	54	49	41	37					52.57	<b>55.73</b>	12.26	8	7	5.94	88%	58%
84430 - Harborough 06n	Monitoring Station	Roadside	454476	284541	5	NO <sub>2</sub>	Y	0	2.6	Y	92	58	50	45	45	40	37	39					50.75	<b>53.80</b>	17.98	8	8	8.15	100%	67%
84431 - Harborough 07n	Theddingworth	Roadside	466586	285571	6	NO <sub>2</sub>	N	N/A	2	N	49	41	45	30	39	37	29	28	39	36	47	44	38.67	<b>40.99</b>	7.02	12	12	2.60	100%	100%
84432 - Harborough 08n	Lilac Drive	Roadside	453065	284412	7	NO <sub>2</sub>	N	7	1.8	Y	36	31	27	22	22	20	18	19					24.38	25.84	6.39	8	8	2.90	100%	67%
84433 - Harborough 09n	Maxwell Way	Roadside	454376	285981	8	NO <sub>2</sub>	N	11.1	1.2	Y	44	45	29	24	26	25	15	18	27	24	46	42	30.42	32.24	10.92	12	12	4.04	100%	100%
84435 - Harborough 11n	Day Nursery	Roadside	454539	284932	10	NO <sub>2</sub>	N	9	1.3	N	46	60	55	42	36	36	34	34	40	41	60	57	45.08	<b>47.79</b>	10.22	12	12	3.78	100%	100%
84440 - Harborough 12n	A6 Kibworth	Roadside	468425	294314	11	NO <sub>2</sub>	N	10.7	1.3	Y	47	44	45	31	35	23	34	28	31	43	71	51	40.25	<b>42.67</b>	12.92	12	12	4.78	100%	100%
84441 - Harborough 13n	Rockingham Road	Roadside	474731	287585	12	NO <sub>2</sub>	N	9	2.8	Y	43	33	36	27	24	19	25	25	34	34	51	47	33.17	35.16	9.87	12	12	3.65	100%	100%
84444 - Harborough 16n	Walcote	Roadside	456810	283652	15	NO <sub>2</sub>	N	12.5	3	Y	40	35	36	21	24	22	17	22	30	33	38	44	30.17	31.98	8.76	12	12	3.24	100%	100%
84446 - Harborough 17n	The Square	Roadside	473373	287231	16	NO <sub>2</sub>	N	2.5	3	Y	42	35	33	28	32		20	20		32	43	40	32.50	34.45	8.14	12	10	3.30	83%	83%
84448 - Harborough 18n	Jazz Hair	Roadside	454443	284348	17	NO <sub>2</sub>	N	0	3	Y	62	50		47	50	44	36	34	50	49	68	53	49.36	<b>52.33</b>	9.85	12	11	3.81	92%	92%
86155 - Harborough 19n	Wistow Rd Kibworth	Roadside	467739	294611	14	NO <sub>2</sub>	N	2.5	5.4	Y	33	30	24	27	19	20	17	16	20	26	35	36	25.25	26.77	7.05	12	12	2.61	100%	100%
86381 - Harborough 20n	3 leicester road lutt	Roadside	454527	284805	4	NO <sub>2</sub>	N	13.7	1.9	Y	50	53	45	37	43	27	29	24					38.50	<b>40.81</b>	10.95	8	8	4.96	100%	67%
86382 - Harborough 21n	19 leicester road lutterworth	Roadside	454551	285430	13	NO <sub>2</sub>	N	13.6	3.3	Y	40	42	46	42	31	32	27	27					35.88	<b>38.03</b>	7.47	8	8	3.39	100%	67%
86383 - Harborough 22n	77 leicester road lutterworth	Roadside	454533	284872	9	NO <sub>2</sub>	N	0	13.5	Y	37	37	31	27	24	21	16	15	22	24	36	36	27.17	28.80	8.10	12	12	3.00	100%	100%
86930 - Harborough 23n	6 The Terrace Rugby Road	Roadside	454428	284274	1	NO <sub>2</sub>	Y	0	2.5	Y								35		49	48	44.00	<b>46.64</b>	7.81	4	3	5.78	75%	25%	
86931 - Harborough 24n	4-9 regent court	Roadside	454410	284326	4	NO <sub>2</sub>	Y	0	16.25	Y								23	24	39	40	31.50	33.39	9.26	4	4	5.93	100%	33%	
86932 - Harborough 25n	26 Market Street Lutterworth	Roadside	454497	284618	5	NO <sub>2</sub>	Y	1.6	4.8	Y								41	46		52	46.33	<b>49.11</b>	5.51	4	3	4.08	75%	25%	
86933 - Harborough 26n	24 Rugby Road Lutterworth	Roadside	454432	284229	13	NO <sub>2</sub>	N	5	2	Y								44	46	64		51.33	<b>54.41</b>	11.02	4	3	8.15	75%	25%	
86934 - Harborough 27n	17 Rugby road Lutterworth	Roadside	454476	284178	7	NO <sub>2</sub>	N	3.7	5.2	Y								33	42	55	55	46.25	<b>49.03</b>	10.75	4	4	6.89	100%	33%	



National AQ archive Site details	Annualisation (in line with box 3.2 pg 3-4 of LAQM.TG(09)) (only where year data capture is Greater than 75%)						Façade Correction (See Box 2.3 pg 2-6 LAQM.TG(09))				
	period means		annual / period mean ratio		annualised bias adjusted mean		find relevant background concentration			Façade Corrected Bias Adjusted Mean ( $\mu\text{g m}^{-3}$ )	Façade Corrected Annualised Bias Adjusted Mean ( $\mu\text{g m}^{-3}$ )
	jan - aug	sept - dec	jan - aug	sept - dec	jan - aug	aug - dec	X	Y	background $\text{NO}_2$ ( $\mu\text{g m}^{-3}$ )		
82705 - Harborough 01n	52.63	59.00	1.04	0.93			453500	284500	17.31		
82708 - Harborough 03n	19.14	24.75	1.11	0.86			472500	286500	14.66	<b>Urban background</b>	
83024 - Harborough 05n					<b>60.25</b>		453500	283500	16.67	<b>35.97</b>	<b>38.20</b>
84430 - Harborough 06n					<b>58.17</b>		453500	284500	17.31		
84431 - Harborough 07n	37.25	41.50	1.04	0.93			465500	285500	11.38	<b>Roadside</b>	
84432 - Harborough 08n					27.94		452500	283500	14.78	21.83	23.16
84433 - Harborough 09n	28.25	34.75	1.08	0.88			453500	285500	16.20	24.43	
84435 - Harborough 11n	42.88	49.50	1.05	0.91			453500	284500	17.31	34.36	
84440 - Harborough 12n	35.88	49.00	1.12	0.82			467500	293500	14.63	29.41	
84441 - Harborough 13n	29.00	41.50	1.14	0.80			473500	287500	19.22	29.33	
84444 - Harborough 16n	27.13	36.25	1.11	0.83			455500	283500	19.83	26.81	
84446 - Harborough 17n	30.00	38.33	1.08	0.85			472500	286500	14.66	31.34	
84448 - Harborough 18n	46.14	55.00	1.07	0.90			453500	283500	16.67		
86155 - Harborough 19n	23.25	29.25	1.09	0.86			466500	294500	14.49	25.34	
86381 - Harborough 20n					<b>44.13</b>		453500	284500	17.31	29.36	31.06
86382 - Harborough 21n					<b>41.12</b>		453500	284500	17.31	29.05	30.80
86383 - Harborough 22n	26.00	29.50	1.04	0.92			453500	284500	17.31		
86930 - Harborough 23n						<b>40.75</b>	453500	283500	16.67		
86931 - Harborough 24n						29.17	453500	283500	16.67		
86932 - Harborough 25n						<b>42.91</b>	453500	284500	17.31	<b>46.42</b>	<b>40.74</b>
86933 - Harborough 26n						<b>47.54</b>	453500	283500	16.67	<b>43.34</b>	<b>38.48</b>
86934 - Harborough 27n						<b>42.83</b>	453500	283500	16.67	<b>43.78</b>	<b>38.59</b>
	Average ratio		1.08	0.87							

## 2009 Data

National AQ archive Site details	location	Site Type	Grid Reference		Our Tube No.	Pollutants Monitored	In AQMA?	Exposure? (Y/N with distance (m) to relevant receptor)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?	= Bureau veritas labs tubes 20% TEA in water (2009 bias 0.82)		= Lambeth Scientific Tubes 50% TEA in Acetone (2009 bias 1.02)												BIAS most conservative of 2 (02/2010)= 1.02		Confidence level
			X	Y							Measurement Period ( $\mu\text{g m}^{-3}$ )												arithmetic mean ( $\mu\text{g m}^{-3}$ )	Bias adjusted arithmetic Mean ( $\mu\text{g m}^{-3}$ )	Standard Deviation		
											Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
82705-Harborough 01n	Lut. Service Shop	Roadside	454475	284560	2	NO <sub>2</sub>	Y	0	4.2	Y	77	90	80	53	58	52	37	53	48	26	58	58	57.50	58.65	17.88		
82708-Harborough 03n	Brooklands (Home)	Urban background	473418	286956	3	NO <sub>2</sub>	N	N/A	N/A	Y	32	38	24	13	12	16	11	12	15	14	19	27	19.42	19.81	8.87		
83024-Harborough 05n	Lut. Regent Road	Roadside	454418	284303	1	NO <sub>2</sub>	Y	21	4.3	N	98	110	89	54		57		43			63	81	74.38	75.86	23.65		
84430-Harborough 06n	Monitoring Station	Roadside	454476	284541	5	NO <sub>2</sub>	Y	0	2.6	Y	70	90	67	47	48	42	54	48	38		59	56	56.27	57.40	14.88		
84431-Harborough 07n	Theddingworth	Roadside	466586	285571	6	NO <sub>2</sub>	N	N/A	2	N	56	62	52	34	33	31	28	29	33	21	54	45	39.83	40.63	13.30		
84432-Harborough 08n	Lilac Drive	Roadside	453065	284412	7	NO <sub>2</sub>	N	7	1.8	Y	45	49	32	23	19	16	19	16	23	15	28	36	26.75	27.29	11.52		
84433-Harborough 09n	Maxwell Way	Roadside	454376	285981	8	NO <sub>2</sub>	N	11.1	1.2	Y	50	46	31		25	33	16	17	24	21	42	40	31.36	31.99	11.82		
84435-Harborough 11n	Day Nursery	Roadside	454539	284932	10	NO <sub>2</sub>	N	9	1.3	N	73	75	71	27	20	21	18	18	24	15	25	37	35.33	36.04	23.41		
84440-Harborough 12n	A6 Kibworth	Roadside	468425	294314	11	NO <sub>2</sub>	N	10.7	1.3	Y	68	93	47	47	38		36	24	38		41	47	47.90	48.86	19.43		
84441-Harborough 13n	Rockingham Road	Roadside	474731	287585	12	NO <sub>2</sub>	N	9	2.8	Y	68	65	56	32	33	30	33	34	35	25	45	46	41.83	42.67	14.25		
84444-Harborough 16n	Walcote	Roadside	456810	283652	15	NO <sub>2</sub>	N	12.5	3	Y	54	52	41	22	23			22	23	18	31	27	31.30	31.93	13.10		
84446-Harborough 17n	The Square	Roadside	473373	287231	16	NO <sub>2</sub>	N	2.5	3	Y	56	51			34			23	26	20		53	37.57	38.32	15.41		
84448-Harborough 18n	Jazz Hair	Roadside	454443	284348	17	NO <sub>2</sub>	N	0	3	Y	83	83	67	52	42	55	34	31	49	30	45		51.91	52.95	18.88		
86155-Harborough 19n	Wistow Rd Kibworth	Roadside	467739	294611	14	NO <sub>2</sub>	N	2.5	5.4	Y	47	42	34	17		17	12	17	21	17	23	31	25.27	25.78	11.55		
86381-Harborough 20n	3 leicester road lutt	Roadside	454527	284805	4	NO <sub>2</sub>	N	13.7	1.9	Y	73	74	57	38	42	44	32	25	37	30	28	51	44.25	45.14	16.53		
86382-Harborough 21n	19 leicester road lutterworth	Roadside	454551	285430	13	NO <sub>2</sub>	N	13.6	3.3	Y	57	65	48	37	35	33	20	26	31	22	36	50	38.33	39.10	13.96		
86383-Harborough 22n	77 leicester road lutterworth	Roadside	454533	284872	9	NO <sub>2</sub>	N	0	13.5	Y	42	43	29	27	20	21	18	18	24	15	25	37	26.58	27.12	9.47		

National AQ archive Site details	façade correction (See Box 2.3 pg 2-6 LAQM.TG(09))						
	sample size	confidence interval	% data coverage	find relevant background concentration			Façade corrected bias adjusted mean ( $\mu\text{g m}^{-3}$ )
				X	Y	background $\text{NO}_2$ ( $\mu\text{g m}^{-3}$ )	
82705- Harborough 01n	12	6.62	100%	453500	284500	13.54	
82708- Harborough 03n	12	3.28	100%	472500	286500	11.06	
83024- Harborough 05n	8	10.72	67%	453500	283500	12.72	<b>43.92</b>
84430- Harborough 06n	11	5.75	92%	453500	284500	13.54	
84431- Harborough 07n	12	4.92	100%	466500	285500	9.42	
84432- Harborough 08n	12	4.26	100%	452500	283500	11.44	21.54
84433- Harborough 09n	11	4.57	92%	453500	285500	12.58	22.54
84435- Harborough 11n	12	8.66	100%	454500	284500	22.63	30.13
84440- Harborough 12n	10	7.87	83%	467500	293500	11.14	31.02
84441- Harborough 13n	12	5.27	100%	474500	287500	18.62	33.87
84444- Harborough 16n	10	5.31	83%	456500	283500	12.78	23.79
84446- Harborough 17n	7	7.47	58%	472500	286500	11.06	34.05
84448- Harborough 18n	11	7.29	92%	453500	283500	12.72	
86155- Harborough 19n	11	4.46	92%	467500	294500	10.93	24.05
86381- Harborough 20n	12	6.11	100%	454500	284500	22.63	34.17
86382- Harborough 21n	12	5.17	100%	454500	284500	22.63	31.96
86383- Harborough 22n	12	3.50	100%	454500	284500	22.63	

# **Appendix D. Draft AQMA Amendment Order**



## **Environment Act 1995 Part IV Section 83(2)(b)**

### **Harborough District Council**

#### **Air Quality Management Area (Nitrogen Dioxide) Amendment Order 2013 (No.1) Order**

By an Order dated 18<sup>th</sup> July 2001 Harborough District Council (“the Council”) made The Harborough District Council (Air Quality Management Area No. 1) Order 2001 (“the 2001 Order”).

By an Order dated 14<sup>th</sup> November 2011 Harborough District Council (“the Council”) made Air Quality Management Area (Nitrogen Dioxide) Amendment Order 2011 (No.1) Order 2011 (“the 2011 Order”).

The Council is satisfied that as a result of the 2012 Air Quality Further Assessment of Lutterworth AQMA dated ??????? that an area to the south of the area declared by “the 2001 Order” as amended by “the 2011 Order” is exceeding the Annual Mean Air Quality Standard for Nitrogen Dioxide at relevant receptors.

In using its authority conferred under section 83(2) of the Environment Act 1995 Harborough District Council makes the following order varying The Harborough District Council (Air Quality Management Area No. 1) Order 2001 as follows;

1. The order known as The Harborough District Council (Air Quality Management Area No. 1) Order 2001 shall be amended as follows
2. The text of section 2 be amended to read as follows

- a. The Air Quality Management Area No. 1 incorporates the junction of George Street Lutterworth (A427) going south along Market Street and High Street to the junction of Rugby Road, High Street and Stoney Hallow along Rugby Road to the Bridge over the River Swift, including the boundaries of the properties listed in section 2a, as outlined in blue in the attached map.

3. That the following Rows be appended to the table in section 2a

UPRN	Building/House Name	House No.	Street	town	county	post code
100030484668		3	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484670		7	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484562		22	Riverside Road	Lutterworth	Leicestershire	LE17 4BP
100030484671		9	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484675		17	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484672		11	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100032049502		34	Rugby Road	Lutterworth	Leicestershire	LE17 4BN
100030484667		1	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484680		28	Rugby Road	Lutterworth	Leicestershire	LE17 4BN
100030484679	Wood Bank		Rugby Road	Lutterworth	Leicestershire	LE17 4BN
100030484674		15	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
200003747447	Stonepave Uk Limited		Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484669		5	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484673		13	Rugby Road	Lutterworth	Leicestershire	LE17 4BW
100030484685	Fox Inn	34	Rugby Road	Lutterworth	Leicestershire	LE17 4BN
200003740211	Suite 5 Stonepave Uk Limited		Rugby Road	Lutterworth	Leicestershire	LE17 4BW

4. The Map attached to the order be replaced with the attached Map

Signed \_\_\_\_\_

Norman Proudfoot  
Head of Health and Enforcement Services

Date \_\_\_\_ of \_\_\_\_\_ 2012

Area of Lutterworth AQMA

