

DETAILED ASSESSMENT OF AIR QUALITY FOR COVENTRY 2007



EXECUTIVE SUMMARY

Air Quality has serious impacts on human health and the environment. Due to this Local Authorities are required to review and assess air quality in their areas against objectives in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland ¹.

Review and assessment is performed in accordance with a 10 year timetable and this is the third round. The first two rounds of assessment identified three areas where the UK air quality objective for annual mean concentrations of nitrogen dioxide would not be met. These areas were subsequently declared Air Quality Management Areas.

The Updating and Screening Assessment 2006 identified six further areas of Coventry as exceeding the UK air quality objective for nitrogen dioxide. This report is a detailed assessment of those areas in accordance with the Council's Local Air Quality Management obligations under the Environment Act (1995).

The areas identified for assessment were:

- Croft Road
- Foleshill Road
- London Road at Tollbar Island
- Radford Road at its junction with Beake Avenue
- Spon End / Hearsall Lane
- Stoney Stanton Road

The Assessment details monitoring performed in these areas to indicate the extent of air quality objective exceedences and demonstrates that all of the areas studied exceed the objective. The map below shows the areas of exceedence and near exceedence in Coventry in 2006. This demonstrates that a much larger area of Coventry exceeds the UK air quality objective than in 2004.

Under the Environment Act Coventry City Council are required to designate an Air Quality Management Area or Areas covering all areas of exceedence. Following the Updating and Screening Assessment DEFRA's suggested that conjoining areas should be designated a single AQMA. The City Council must consult and determine whether to;

- a) Designate the whole of Coventry an AQMA.
- b) Designate two separate AQMA's, one covering the city centre and northern area of the city and one covering Tollbar End.

Designation of a whole borough will remove the need to declare further areas in the future and the work that this entails. It will also enable any future Air Quality Action Plan to be tied in with measures to reduce climate change gases.

Following designation of the AQMA/s the Council are legally required to produce an assessment of the sources and extent of the nitrogen dioxide exceedence within 12 months. An Air Quality Action Plan detailing measures for reduction of nitrogen

¹ Air Quality Strategy for England, Scotland, Wales and Northern Ireland, volume 1, DEFRA, July 2007

dioxide within the AQMA is also required. The current Air Quality Action Plan may be reviewed and measures added to reflect the extended area covered.

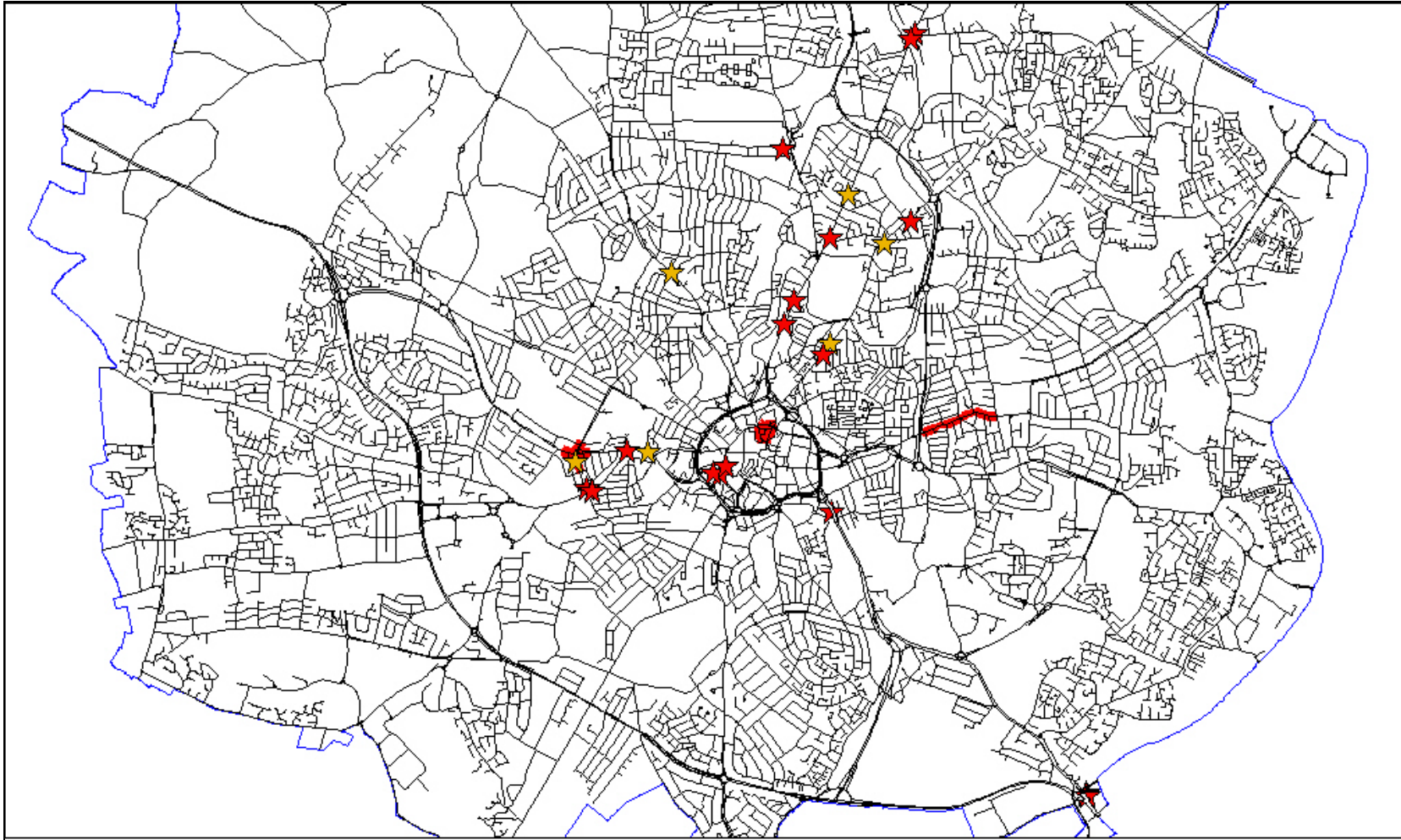


Figure 1: Areas of Exceedence (red) and near Exceedence (amber) in Coventry 2007

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1 INTRODUCTION

1.1 Purpose Of Report

The Updating and Screening Assessment of Air Quality in Coventry in 2006 demonstrated that a number of areas of the city did not meet the UK air quality objective for the pollutant nitrogen dioxide. This report is a detailed assessment of those areas in accordance with the Council's Local Air Quality Management obligations under the Environment Act 1995 for the third round of Review and Assessment.

1.2 Introduction to Local Air Quality Management

Part IV of the Environment Act 1995 requires local authorities 'from time to time' to review and assess the current, and likely future, air quality in their areas against objectives in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland². Where objectives are not likely to be met the local authority is required to designate an Air Quality Management Area (AQMA). The local authority must then draw up an action plan setting out the measures it intends to take in pursuit of the air quality objectives within the area covered by the AQMA. A review and assessment is the initial step in the formal Local Air Quality Management (LAQM) process.

The structure of the reviews and assessment are set out in the statutory guidance made under the Act.

Coventry and the other six West Midlands Authorities began the Review and Assessment Process as a joint effort in 1998.

The second round of review and assessment began in January 2003. This was carried out in accordance with new technical guidance from DEFRA (LAQM.TG(03)) which encompasses details of new emission factors for the UK, revised assessment criteria and tighter formal (or provisional) air quality objectives. The structure of the second round and third rounds differs from the first round and the process is now carried out in two steps:

Step One is an **Updating and Screening Assessment (USA)** for identifying those aspects that have changed since the previous rounds of review and assessment. The USA should include an explanation of all conclusions reached as to whether a local authority should proceed to Detailed Assessment or not; and Step Two, a **Detailed Assessment** of those pollutants and specific locations that have been identified as requiring further work. The Detailed Assessment should conclude whether or not Air Quality Objectives are unlikely to be met by the relevant target year and hence whether an Air Quality Management Area (AQMA) should be declared.

In Coventry the second round of review and assessment resulted in the designation of three AQMA's for exceedence of the objective for the annual mean concentration of nitrogen dioxide. These are:

² Air Quality Strategy for England, Scotland, Wales and Northern Ireland, volume 1, DEFRA, July 2007

AQMA 1: the City Centre and is composed of an area in the region of Cross Cheaping, the Burges, Hales Street, Trinity Street, and Ironmonger Row.

AQMA 2: an area around the A4600 Walsgrave Road between Brighton Street and Shakespeare Street in the Ball Hill area of Coventry.

AQMA 3: an area surrounding the junction of Allesley Old Road B4106, Four Pounds Avenue and Queensland Avenue.

An Action Plan for improving air quality in these areas was finalised in September 2007.

The **Updating and Screening Assessment 2006** identified six more areas of Coventry where the annual mean nitrogen dioxide objective is likely to be exceeded.

These areas were:

Croft Road
 Foleshill Road
 London Road at Tollbar Island
 Radford Road at its junction with Beake Avenue
 Spon End / Hearsall Lane
 Stoney Stanton Road

1.3 Objectives for Nitrogen Dioxide

Table 1 shows the two objectives set for nitrogen dioxide in the UK Air Quality Strategy and where they apply.

Annual Mean (40µg/m ³ per calendar year)	APPLIES: Where the public have regular exposure e.g., facades of residential properties, schools, hospitals, libraries NOT: Where the public have limited access, residential gardens and kerbsides.
1 hour mean (18 exceedences of 200µg/m ³ per calendar year)	APPLIES: Anywhere the public may spend an hour or more. e.g., residential gardens, shopping areas, bus stations, railway stations, car parks

Table 1: UK NO2 Objectives and Applicable Areas

All exceedences in Coventry are due to exceedences of the annual mean at the façades of residential properties.

The main source of nitrogen dioxide pollution is road traffic and the level of nitrogen dioxide reduces quickly as distance from the road increases. Advice on the R&A

support website is that by 10 metres from the kerb the concentration of nitrogen dioxide will usually have reduced by approximately 25%.

2 MONITORING SCOPE AND METHODOLOGY

A Detailed Assessment should conclude by identifying whether an Air Quality Management Area (AQMA) should be designated within the area and under section 83(1) of the Environment Act 1995, local authorities have a duty to declare (by means of an official order) an AQMA in those areas where the air quality objectives are **unlikely** to be met in time or beyond the deadline. The Detailed Assessment should be based on new, appropriate, air quality monitoring (and/or modelling), which has been validated and ratified. The assessment should indicate the spatial extent of air quality objective exceedences and indicate a tentative AQMA boundary. An AQMA boundary should only be set within areas where people might reasonably be exposed.

This Detailed Assessment relies on monitoring data rather than modelling data for a number of reasons.

- DEFRA Technical guidance, LAQM.TG(03), places emphasis on monitoring pollutant concentration as opposed to the more unreliable approach based on dispersion modelling and theoretical assessment of roadside pollutant concentrations.
- The West Midland Pollution Group are currently rebuilding the emissions database for the West Midlands as the current one is out of date and does not reflect the present road network and traffic sources with the West Midlands. Therefore dispersion modelling could not be undertaken with any degree of certainty.
- Previous use of DMRB in areas where monitoring has been performed has demonstrated large under-estimates of the concentrations nitrogen dioxide, even when the effects of street canyons were taken into account.

In general terms, the approach taken to Detailed Assessment was:

- To continue to monitor using Coventry's City Councils automatic air quality monitoring stations which contain real-time Chemiluminescent monitoring for nitrogen dioxide.
- Co-location of diffusion tubes and real-time monitoring to validate diffusion tube results.
- Retain diffusion tube monitoring sites in areas under investigation for improved analysis of long-term trend and continuance of data collection
- Redistribution of diffusion tubes from areas identified in the Updating and Screening Assessment as having low nitrogen dioxide concentrations to extend monitoring in those areas identified as requiring Detailed Assessment. The areas monitored for the detailed assessment are shown in figure 1.

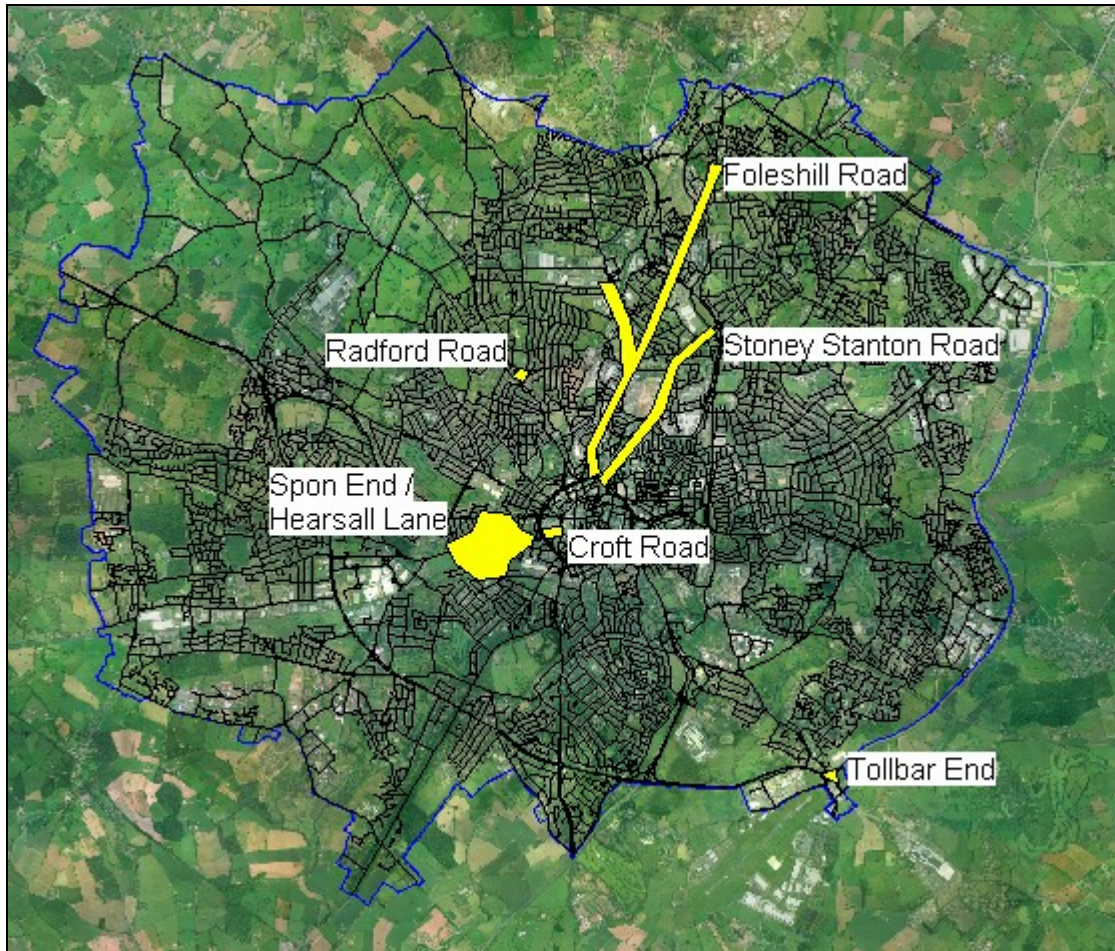


Figure 2: Areas Monitored for Detail Assessment

- Management of monitoring and data ratification in accordance with UK national guidance and best practice as laid down in LAQM.TG.03.
- Minimum monitoring periods of between 9 months from commencement of Detailed Assessment to account for seasonal variation and allow for direct comparison with UK air quality objectives.
- The majority of diffusion tube data is from monitoring over 2006. Where survey data was not available for 2006 correction factors were applied as described in Box 6.5 TG(03) to data from diffusion tubes put in place at the end of October 2006 to August 2007.
- The majority of diffusion tubes were sited at the façade of residential properties. Where this was not possible results of monitoring shown in tables have been adjusted to show results at façade unless otherwise stated.

All monitoring was performed outside of AQMA's with the exception of monitoring for Spon End / Hearsall Common which includes monitoring data from Allesley Old Road monitoring station and diffusion tubes QAv 9, 10 and 11 which are in AQMA 3.

Diffusion tubes used in this survey were supplied and analysed by Gradko International and were 20% TEA / Water Ltd.

Key to tables of monitoring results:

Exceedence of the annual mean at applicable receptor (over $40 \mu\text{g}/\text{m}^3$).
Bordering on Exceedence Level ($38\text{-}40 \mu\text{g}/\text{m}^3$) or not relevant exposure.
Safely below exceedence level (up to $38 \mu\text{g}/\text{m}^3$)

3 AREAS MONITORED AND RESULTS

3.1 Croft Road



Figure 3: View of Croft Road from Victoria Road

3.1.1 Description of the Area

Croft Road is in the centre of Coventry and carries traffic into the city centre from Junction 7 of the Ringway and the Butts Road (B4101). Many cars travel via Croft Road to multi-storey car parking on Victoria Road. There are residential properties on Croft Road and further residential development is proposed on Victoria Road. An Ikea store with 900 car parking spaces is due to open on Croft Road in December 2007.

3.1.2 Monitoring and Assessment of Results

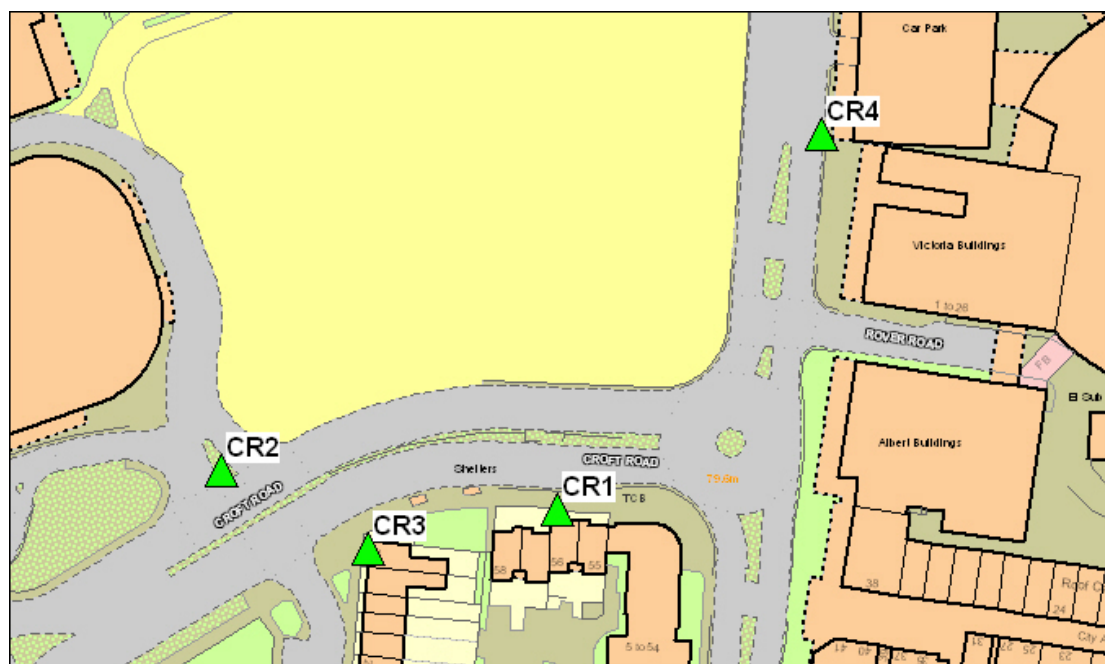


Figure 4: Monitoring Sites on Croft Road / Victoria Road

Table 2: Diffusion Tube data for Croft Road / Victoria Road

Reference	Grid Reference	Address	2006 Annual Mean
CR1	432998 278820	Croft Road, 56	45.1
CR2	432929 278828	Croft Road near Skydome	56.0 ^R
CR3	432959 278812	26A Starley Rd	32.3 ^E
CR3a	432959 278812	26A Starley Rd	32.7 ^E
CR4	433052 278897	Lower Precinct car park, Queen Victoria Rd	45.5 ^{RE}
CR4a	433052 278897	Lower Precinct car park, Queen Victoria Rd	48.1 ^{RE}

R- Roadside

E – Estimated from 2006-2007 data from Walsall Alumwell, Coventry Memorial Park data

There is a clear exceedance of the annual mean objective for nitrogen dioxide at the façade of residential properties on Croft Road (CR1). Monitoring on Victoria Road (CR4) indicates that should residential property be built here, as is proposed) this too would exceed the UK objectives. While CR2 is not in a position that reflects relevant public exposure it provides useful information on emissions from traffic entering the city at this point. Concentrations of nitrogen dioxide may increase in this area when IKEA opens (at the area marked in yellow) in December 07. At this time traffic for Lower Precinct car park will enter the city via Greyfriars Road and may lead to exceedance at residential properties in this area as well.

3.2 Foleshill Road



Figure 5: Foleshill Road at Junction with Eagle Street

3.2.1 Description of the Area

Foleshill Road (B4113) extends from Junction 1 of the Ringway in the City Centre to its junction with the A444 Phoenix Way. The B4113 continues from the Phoenix Way to junction 3 of the M6 as the Longford Road. Both the Longford Road and Foleshill Road have a mix of residential, commercial and industrial properties. Many residential properties on the road are Victorian terraces and are in close proximity to the roadside. The B4113 and roads adjoining it are often congested at peak periods.

3.2.2 Monitoring and Assessment of Results

Monitoring was extended from the Foleshill Road to include more of the B4113, Longford and Bedworth Road, Lockhurst Lane (B4118) and Burnaby Road. Burnaby Road had been identified as approaching the UK annual mean objective for nitrogen dioxide possible in the Updating and Screening Assessment in 2006.

Figures 6 to 8 show the positions of diffusion tubes in this area. The automatic monitoring station is on the opposite side of the road from R4 (figure 7).

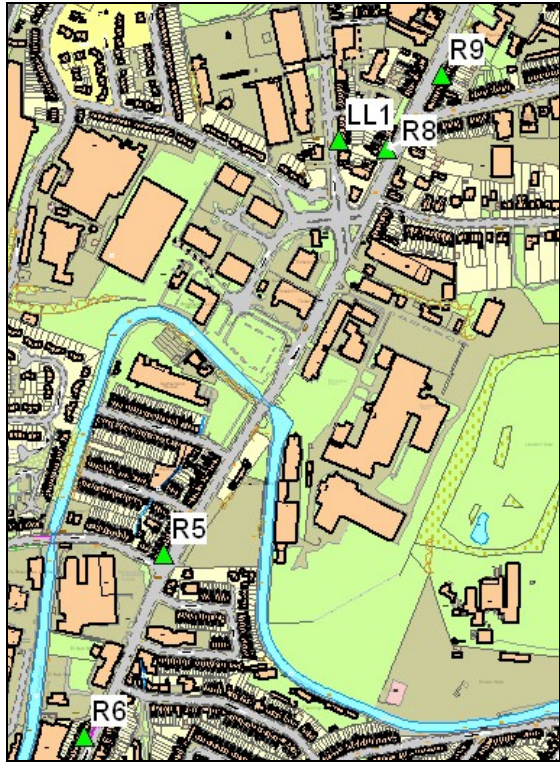


Figure 6: Monitoring points at south of Foleshill Road

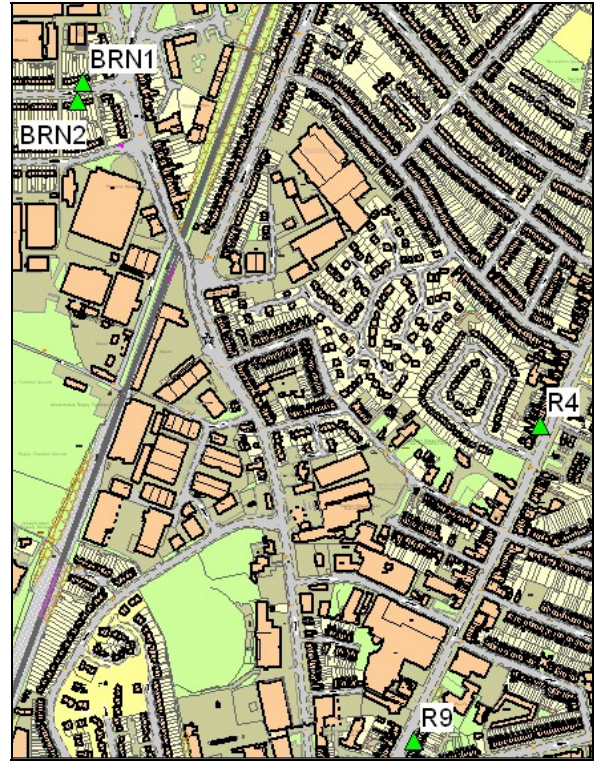


Figure 7: Monitoring Points Foleshill Road and Burnaby Road

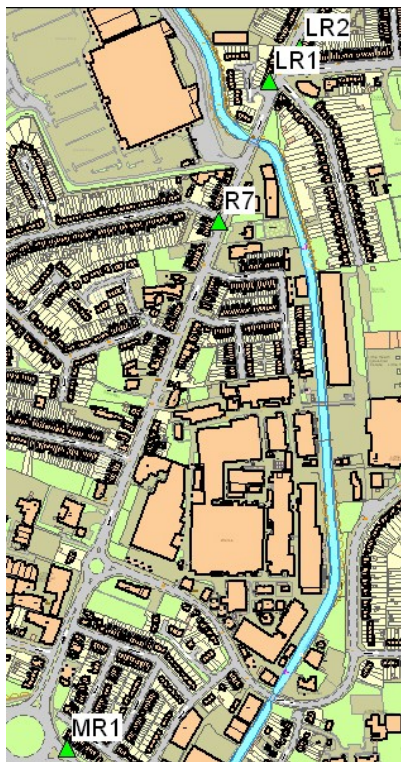


Figure 8: Monitoring Foleshill Road and Longford Road

Figure 9 shows the annual mean nitrogen dioxide at the monitoring station on Foleshill Road (grid ref: 424250, 281513) from 2005 and 2006 and the average for 2007 to October 2007. As we are approaching the winter months, it is unlikely that the annual mean for 2007 will be reduced. Nitrogen dioxide levels in 2007 appear to be considerably higher than in 2006 and 2005. Some of this increase may be due to road works near the station over the summer – autumn period.

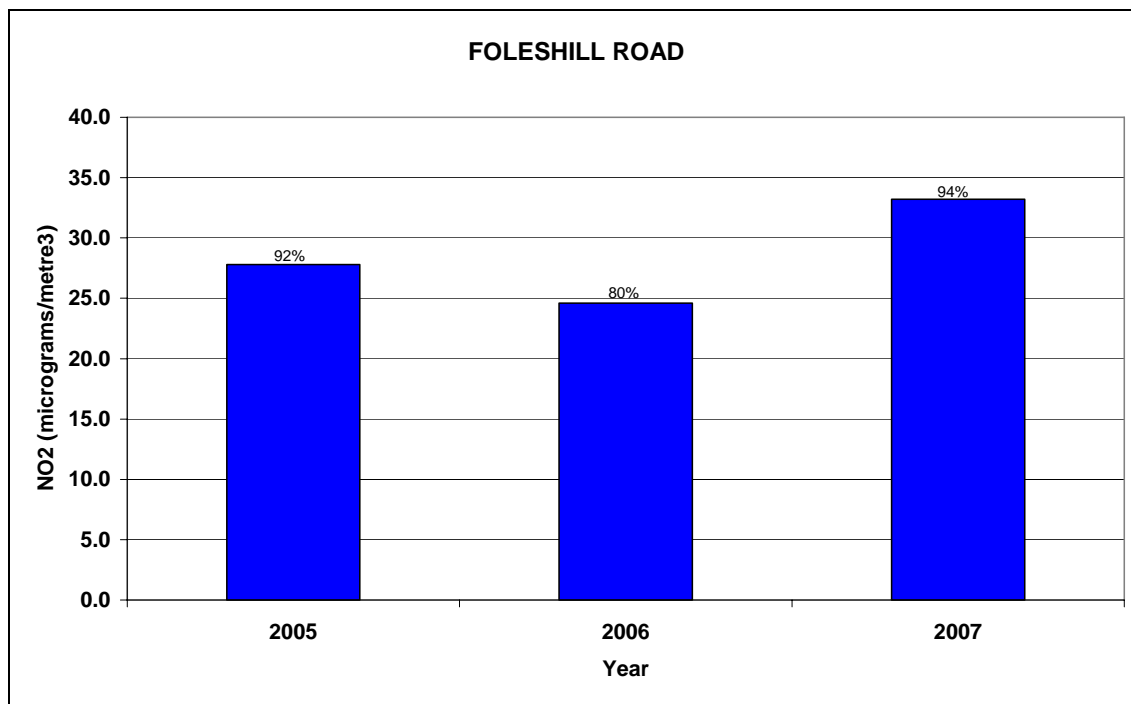


Figure 9: Annual Mean Nitrogen Dioxide at Monitoring Station on Foleshill Road

(Figures above bars show percentage data capture)

Table 3: Diffusion Tube Data for Foleshill Road Area

Reference	Grid Reference	Address	2006 Annual Mean
R4	434233 281526	Foleshill Road, Surestart	38.2
R5	433716 280503	Foleshill Road, 275	44.4
R6	433617 280276	Foleshill Road, 193	56.6
R6a	433617 280276	Foleshill Road, 193	55.5
R7	434765 282830	Foleshill Road, 1139	37.3
R8	433992 281008	Foleshill Road, 415	37.3 ^E
R9	434061 281100	Foleshill Road, Lamppost 71	40.0 ^{E,C}
BRN1	433612 281991	Burnaby Road, 16	32.3
BRN1a	433612 281991	Burnaby Road, 16	34.4
BRN2	433605 281965	Burnaby Road, 19	39.6
BRN2a	433605 281965	Burnaby Road, 19	40.4
LL1	433934 281018	34 Lockhurst Lane	32.2 ^E
MR1	434548 282079	14/16 Mason Rd (facing Phoenix Way)	35.5 ^{E,C}
LR1	434836 283032	23 Longford Road	42.1 ^E
LR2	434880 283077	24 Longford Road	40.5 ^E

R- Roadside

E – Estimated from 2006-2007 data from Walsall Alumwell, Coventry Memorial Park data

C – Corrected to façade

Diffusion tube monitoring in this area (table 3) demonstrates that exceedences of the UK objective for annual mean nitrogen dioxide occur at several junctions along the B4113 and indicates that Burnaby Road (BRN 2 & 2A) is also likely to exceed the objective. The greatest exceedence is at 193 Foleshill Road (R6a), opposite the junction with Eagle Street where levels of nitrogen dioxide are 41% over the UK objective. Monitoring on Lockhurst Lane indicates that this area does not exceed but monitoring in this area was limited.

3.3 London Road at Tollbar Island



Figure 10: Tollbar Island

3.3.1 Description of the Area

The Tollbar Island forms the junction between the A45, A46, and the B4110. Also entering the island is a minor road to the Coventry Airport and the Middlemarch Industrial Estate, which are both within Warwickshire. The roads onto the Tollbar Island are highly congested at peak times. Although the island and the residential properties in the area are in Coventry, the borders of Rugby and Warwickshire are within a few hundred metres.

3.3.2 Monitoring and Assessment of Results



Figure 11: Monitoring Sites at Tollbar End

Table 4: Diffusion Tube Data for London Road at Tollbar Island

Reference	Grid Reference		Address	2006 Annual Mean
LON 3	436544	275729	701 London Road, Glengary Hotel	40.2
LON 7i	436540	275725	701 London Road, Glengary Hotel	42.6
LON 7ii	436543	275718	701 London Road, Glengary Hotel	40.9
LON 7iii	436546	275711	701 London Road, Glengary Hotel	39.9
LON 8	436548	275712	701 London Road, Glengary Hotel	41.1
LON 8a	436551	275703	703 London Road, Glengary Hotel	40.1
LON 9	436582	275654	London Road, 717	35.0

Concentrations of nitrogen dioxide exceed the UK objective at the Glengary Hotel but as distance from the junction increases concentrations reduce so that no other properties are affected.

The Highways Agency is planning to make junction improvements at Tollbar End to relieve traffic congestion. Work on this is expected to begin in 2008.

3.3.3 Radford Road at its junction with Beake Avenue



Figure 12: The Junction of Radford Road with Beake Avenue

3.3.4 Description of the Area

Radford Road forms part of the B4098, which extends from Ringway junction 9 in the city centre towards Radford and Keresley in the north west of the city. Beake Avenue joins the Radford Road at a junction with traffic lights where it forms a crossing with Engleton Road, which forms part of the B4107. In other areas of the Radford Road congestion occurs at peak periods but properties are further from the road and therefore it is unlikely that UK air quality objectives are exceeded.

3.3.5 Monitoring and Assessment of Results

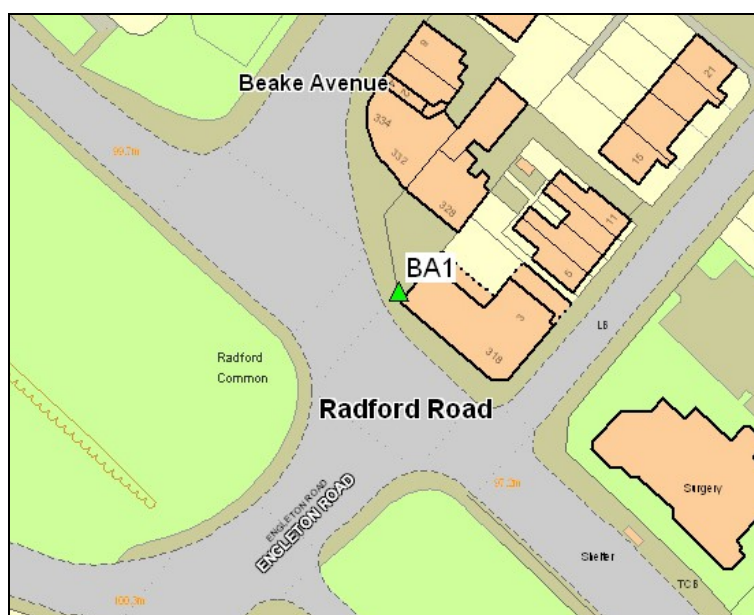


Figure 13: Monitoring Sites at the Junction of Radford Road and Beake Avenue

Table 5: Diffusion Tube Data for Radford Road

Reference	Grid Reference		Address	2006 Annual Mean
BA1	432531	280769	326 Radford Road, lamppost 47	43.4
BA1d	432531	280769	326 Radford Road, lamppost 47	39.5

Nitrogen dioxide concentrations have been measured at the junction for some time. Exceedence was measured in 2005 but at this time there was no residential property on the Radford Road side of the junction. As residential apartments were built at the junction members of the public are now exposed and therefore the UK objective for annual mean nitrogen dioxide applies. These results demonstrate that an exceedence is still occurring.

3.4 Spon End / Hearsall Lane

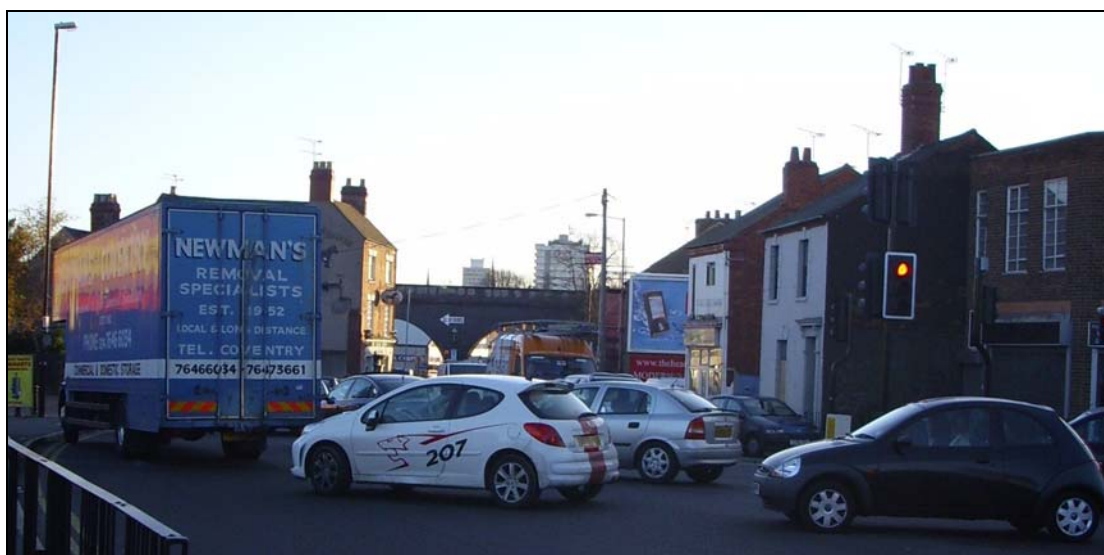


Figure 14: Spon End Junction

3.4.1 Description of the Area

Spon End and Hearsall Lane form part of the B4101, adjoin the Allesley Old Road (B4108) and Queensland Avenue (B4107). The northern end of Queensland Avenue and its junction with Allesley Old Road form Coventry's AQMA 3.

3.4.2 Monitoring

An automatic air quality monitoring station is sited on the Allesley Road in AQMA 3 (grid ref: 431575, 279020). Data for 2005 was estimated due to poor data capture and data for 2007 is from January to October 2007 only.

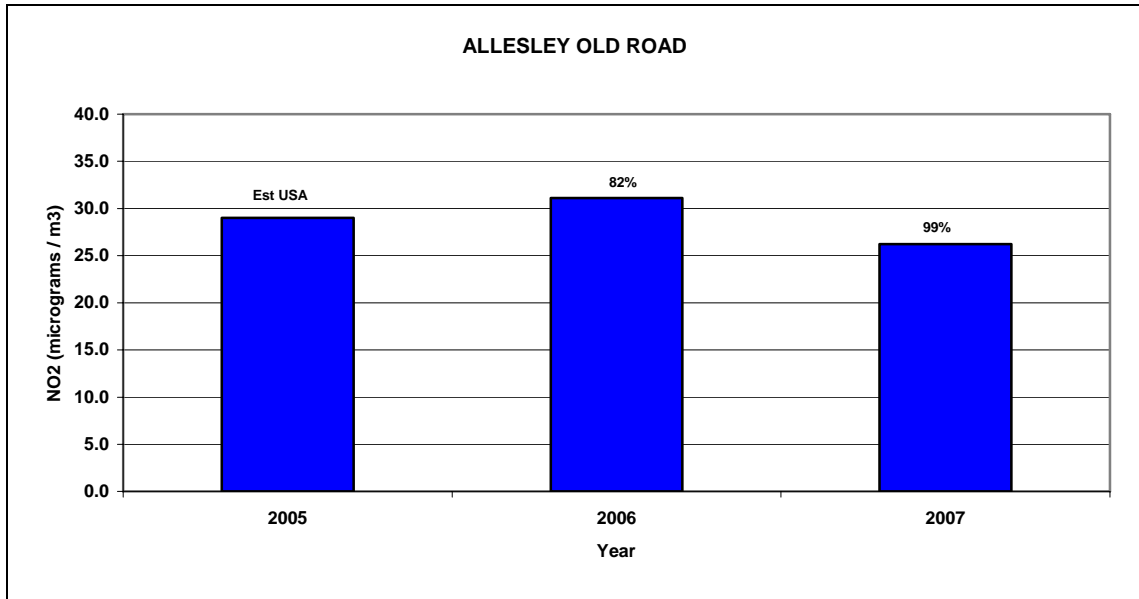


Figure 15: Annual Mean Nitrogen Dioxide at Monitoring Station on Allesley Old Road

(Figures above bars show percentage data capture)



Figure 16: Monitoring Sites for Spon End, Hearsall Lane and surrounding area.

Diffusion tube monitoring was extended from AQMA 3 (QAV 9, 10 and 11) and Spon End (SE1) to cover other roads in the surrounding area.

Table 6: Diffusion Tube Data for Spon End and Surrounding Area

Reference	Grid Reference		Address	2006 Annual Mean
SE1	432091	279042	Spon End, 58a	39.5
SE1d	432091	279042	Spon End, 58a	40.1
SE2	432256	279019	28 Allesley Road	31.1 ^E
SE3	432305	279027	97 Spon End	39.1 ^E
QAV 9	431601	278934	Queensland Avenue, 81	39.0
QAV 10	431559	279020	Allesley Old Road, 164	37.0
QAV 11	431631	278992	Allesley Old Road, 87	34.7
QAV 12	431703	278680	Queensland Avenue, 2	42.2
QAV 13	431761	278656	Hearsall Lane, 181	49.3
EA1	432013	278188	132 Earlsdon Ave North	28.1 ^E
EA2	431840	278395	169 Earlsdon Ave North	28.3 ^E
AL1	432309	278472	32 Albany Road	30.5 ^E

E – Estimated from 2006-2007 data from Walsall Alumwell, Coventry Memorial Park data

Monitoring in 2006 indicates that Spon End bordered on an exceedence and that Hearsall Lane (QAV 13) exceeded by to 23%. Air Quality Assessments for developments in the area have also indicated likely exceedences on Butts Road. The opening of IKEA on Croft Road in December 2007 and a mixed-use development on the former Butts College site are likely to increase traffic in this area. Development of a bus lane and gate system at Queensland Avenue / Hearsall Lane junction may lead to traffic queuing in other areas.

3.5 Stoney Stanton Road



Figure 17: Stoney Stanton Road

3.5.1 Description of the Area

The Stoney Stanton Road (B4109) runs parallel to the Foleshill Road to the A444 Phoenix Way to the North of the City. It has a mix of residential, commercial and industrial properties. Many residential properties on the road are victorian terraces and are in close proximity to the roadside.

3.5.2 Monitoring

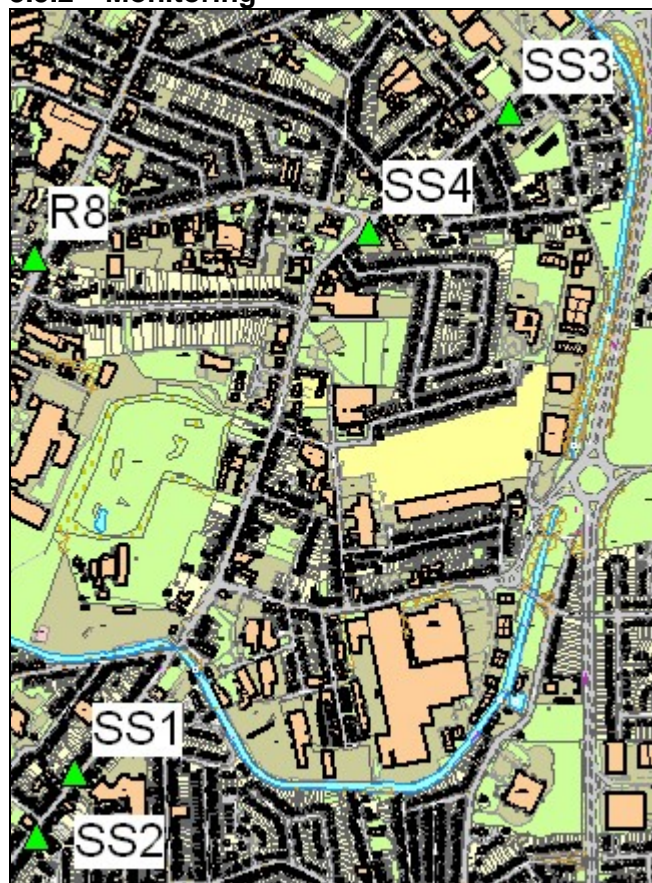


Figure 18: Monitoring sites on Stoney Stanton Road

Table 7: Diffusion Tube Data for Stoney Stanton Road

Reference	Grid Reference		Address	2006 Annual Mean
SS1	434064	280083	Stoney Stanton Road, 154	39.9
SS2	433994	279969	Stoney Stanton Road, 155	43.6
SS3	434842	281272	21 Torcastle Close, facing Stoney Stanton Rd)	40.1
SS4	434591	281056	611 Stoney Stanton Rd	39.7

E – Estimated from 2006-2007 data from Walsall Alumwell, Coventry Memorial Park data

There is a borderline exceedence of the UK objective for nitrogen dioxide along the Stoney Stanton Road. Future developments are likely to lead to an increase in traffic along Stoney Stanton Road. For example, City College, which has a large multi-storey car park, on the corner of Stoney Stanton Road and Harnell Lane is in the process of opening and a large mixed development is planned for Paragon Park, an area sited between Foleshill and Stoney-Stanton Roads.

4 DISCUSSION AND RECOMMENDATIONS

4.1 Reasons for Increased number of Exceedences

In 2003 estimates for air quality levels in the UK were that as vehicle technology became "cleaner" nitrogen dioxide levels would decrease. Over the last 18 months it

has been noticed that in many urban areas levels of nitrogen dioxide are not reducing as expected but are remaining stable or increasing. This is because concentrations of nitrogen dioxide emitted by diesel engines, HDV's and buses in particular, has increased due to changes in engine technology. Most notably many designs of particle traps reduce particulate emissions but increase NO2 emissions.

The UK objectives only apply in those areas noted in Table 1. Areas of pollution occur which are not counted as an exceedence because there is insufficient public exposure. Introduction of residential property or public buildings to one of these areas creates an area of exceedence, as was the case with Redford Road / Beake Avenue junction.

It is not surprising to those with local knowledge to find that a number of areas of the city, which did not exceed UK air quality targets previously do now. As Coventry is going through a period of growth and regeneration volumes of traffic are likely to increase further.

The Air Quality Action Plan, which was sent to DEFRA in 2007, contains many measures to improve air quality in the current AQMA's and there are many other activities being undertaken by the Council to improve traffic flow. However, given the volume of traffic likely to be generated by the growth of the city and its regeneration it will be challenging to reduce nitrogen dioxide enough to reach the UK air quality objective across the city.

4.2 Declaration of Air Quality Management Areas

The Detailed Assessment has to be submitted to DEFRA for consultation. Following this Coventry City Council must designate Air Quality Management Areas (AQMA's) to cover the areas of the city where exceedences of the UK objective for annual mean nitrogen dioxide.

The Environment Act 1995 states that "*the local authority shall by order designate as an air quality management area any part of its area in which it appears that [the air quality objectives] are not likely to be achieved*". However, apart from ensuring all exceedence areas are covered it is left for the Local Authority to decide the exact area to be declared.

Coventry's current three AQMA's, shown in figure 18, cover small areas of exceedence. Other Local Authorities have chosen to designate larger areas, with most of the other West Midlands Local Authorities designating their whole borough.



Figure 19: Current AQMA's

Following the Updating and Screening Assessment DEFRA suggested that should the outcome of the Detailed Assessment indicate that further Air Quality Management Areas need to be declared, Coventry City Council should consider the declaration of one single AQMA to cover all areas of exceedence. Figure 19 shows the current AQMA in the city and the areas found to exceed following this Detailed Assessment. Following DEFRA's suggestion it is evident that the current AQMA need to be revoked and replaced by new AQMA/s covering the current AQMA and the new exceedence areas.

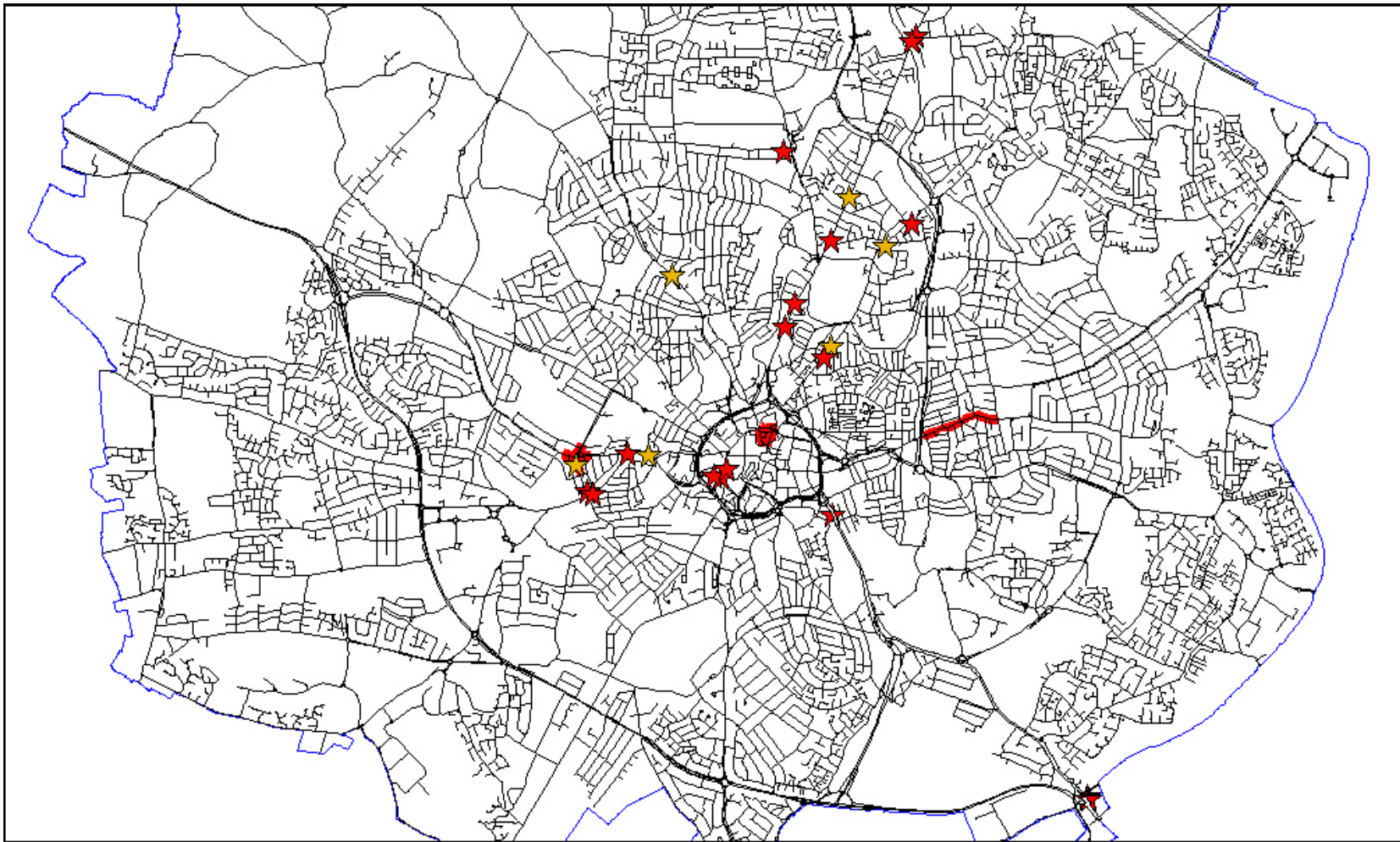


Figure 20: Areas of Exceedence and near Exceedence in Coventry 2006

Considering Policy Guidance³ and NSCA guidance⁴ the Coventry City Council's most appropriate options for AQMA designation include are:

A Whole Borough Declaration

Many large conurbations have declared their entire area an AQMA. It circumvents some administrative problems, such as the need to declare further areas in future and the work necessary to do this. Should areas of exceedence be found in future a whole borough declaration removes the need to perform Detailed Assessment. It also ensures that measures to reduce air pollution are city-wide and can be tied in more easily with actions to reduce climate change. This link with climate change would fit with recommendations by DEFRA's Air Quality Expert Group⁵.

³ Local Air Quality Management: Policy Guidance LAQM. PG(03)

⁴ Air Quality Management Areas: Procedures and Practice, NSCA

⁵ Air Quality and Climate Change: A UK perspective, 2007, AQEG

Declaration of 2 AQMA's

It is evident from Figure 19 that the majority of exceedence areas are around the city centre and to the north of the city, with a separate area of exceedence at Tollbar Island. Declaration of two separate AQMA's covering these areas may be appropriate. Actions for reduction of nitrogen dioxide in the city centre and north of Coventry would mainly involve Coventry City Council and local residents and businesses, as does the present action plan. Actions for Tollbar End will need to involve the neighbouring authorities of Warwickshire DC, Warwick BC and Rugby BC and the Highways Agency and possibly Coventry Airport. Also work planned at Tollbar End by the Highways Agency may improve air quality in this area and remove the need for this AQMA.

It is proposed that the area/s to be declared an AQMA is consulted upon before a decision is made as to the exact area covered.

4.3 Further Work

Work on Local Air Quality Management follows procedure laid down in the Environment Act 1995, the National Air Quality Strategy and guidance from DEFRA. This entails the rolling Review and Assessment procedure laid out in a 10 year timetable, as well as the statutory requirements pertaining to areas where UK objectives are exceeded.

Following DEFRA's approval of the Detailed Assessment the City Council will be expected to designate the area/s to be AQMA/s within 4 months. It is therefore recommended that consultation on the area/s to be covered be consulted on before this stage.

Once the AQMA/s are designated we will have 12 months to produce a "Further Assessment" of air quality in the AQMA and 18 months to produce an Air Quality Action Plan covering the area declared.

The Further Assessment entails an in-depth monitoring and modelling to:

- assess the sources of nitrogen dioxide in the area so that these can be targeted
- calculate of the extent exceedence and the amount of improvement required calculated.

The Air Quality Action Plan must lay out the measures that Coventry City Council will use to reduce nitrogen dioxide concentrations in areas of exceedence and when we expect the UK air quality objectives. The Action Plan must be fully integrated with Local Transport Plans. Coventry City Council has an Action Plan for three AQMA's. This will need to be reviewed and the new measures added to reflect these the larger area of concern.

This work shall need to be performed in addition to review and assessment and reporting on the progress of the current action plan for the 3 AQMA's.

5 CONCLUSIONS

- All areas identified by the Updating and Screening Assessment 2006 have been confirmed as exceeding the UK objective for annual mean nitrogen dioxide. These areas are:

Croft Road

Foleshill Road / Longford Road (B4113)

London Road (A45) at Tollbar Island

Radford Road (B4098) at its junction with Beake Avenue

Spon End / Hearsall Lane (B4101)

Stoney Stanton Road (B4109)

- Under the Environment Act Coventry City Council are required to designate an Air Quality Management Area or Areas covering all areas of exceedence. Following DEFRA's suggestion conjoining areas should be designated a single AQMA. The City Council must consult and determine whether to;
 - a) designate the whole of Coventry an AQMA.
 - b) designate two separate AQMA's, one covering the city centre and northern area of the city and one covering Tollbar End.Either of these will require revocation of the designation orders for the current three AQMA.
- Following designation of the AQMA/s the Council are legally required to produce an assessment of the sources and extent of the nitrogen dioxide exceedence within 12 months. An Air Quality Action Plan detailing measures for reduction of nitrogen dioxide within the AQMA is also required. The current Air Quality Action Plan may be reviewed and measures added to reflect the extended area covered.

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