2014 Air Quality Progress Report for Ipswich Borough Council

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

July 2014

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Executive Summary

Monitoring results from diffusion tubes and continuous monitors located within existing Air Quality Management Areas have shown exceedances of the nitrogen dioxide annual average objective level. Exceedances were also obtained at locations outside of the existing Air Quality Management Areas.

A number of local developments such as road network changes and installation of individual biomass boilers have been identified and will be considered in the next Updating and Screening Assessment.

The next stage is to submit a Detailed Assessment considering the exceedances of the nitrogen dioxide annual average objective level at locations outside of the existing AQMAs. In addition the boundaries of the existing AQMAs require clarification due to some areas within existing AQMAs repeatedly measuring concentrations of nitrogen dioxide below the objective level.

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1 Introduction

1.1 Description of Local Authority Area

Ipswich is the county town of Suffolk and the fastest growing regional centre in the East of England. It is a multi-cultural centre for business, culture, entertainment and sport, with a population of more than 130,000 and is home to University Campus Suffolk and Suffolk New College.

The main routes into and out of Ipswich are congested during typical rush hour times. Travel across Ipswich is restricted to certain routes by the River Orwell. Transport and traffic management are key strategic priorities for the town as the Waterfront area and other areas of the town are undergoing significant redevelopment. Continuing this economic prosperity is dependent on people being able to move around town for work, shopping and leisure. At present a significant number of these journeys are made by car.

1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre µg/m^3 (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m^3	Running annual mean	31.12.2003
	5.00 µg/m^3	Annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m^3	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m^3	Annual mean	31.12.2004
	0.25 µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m^3	Annual mean	31.12.2005
Particulate Matter (PM_{10}) (gravimetric)	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
Sulphur dioxide	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

1.4 Summary of Previous Review and Assessments

Round 1

The first round of air quality review and assessment was completed in March 2001 and consisted of three stages, each reported separately and progressively looking into more detailed analysis when required;

Stage 1 comprised of an initial study to identify which pollutants required further investigation;

Stage 2 required estimating, modelling or measuring pollutants where there was an indication that national objectives would not be achieved; and

Stage 3 involved using advanced modelling techniques and emissions inventories.

The final assessment (third stage report) concluded that the Air Quality Objectives would be met. There were, however, some areas of concern where levels of nitrogen dioxide from road traffic pollution were expected to be close to reaching the objective level and the need to keep these under review was recognised.

Round 2

In 2003, all local authorities were required to complete a second round of air quality reviews and assessments. The Government issued guidance to assist with this and to direct authorities on the methodology for completing the review. The first stage of the review was an Updating and Screening Assessment (USA). This was based on a checklist to identify those matters that had changed since the first review was completed in 2001 and which required further assessment. The USA covered new monitoring data, new sources of pollution and other changes that affected air quality.

The Council's USA, completed in December 2003, concluded that further detailed assessments of nitrogen dioxide from road traffic sources and particulate matter from an industrial source were required to determine whether air quality objectives would be exceeded in 2005. In July 2005, further detailed assessments were completed in respect of the impact of road traffic on concentrations of nitrogen dioxide in St Margaret's St, Norwich Road/Chevallier St junction and the Star Lane gyratory

system/St Helen's St. The assessment was completed using a dispersion model, traffic and meteorological data and an ambient real time continuous monitor to produce concentration plots for 2005 and 2010.

The results of the detailed assessments for nitrogen dioxide indicated that the annual mean objective pollution level would be exceeded along most of the roads under study. In places, the exceedence of the 40µg/m3 annual mean standard extended 50 metres from the kerb into residential areas.

Under Section 83(1) of the Environment Act 1995, local authorities have to designate areas with a predicted exceedence of the Air Quality Objectives as Air Quality Management Areas (AQMAs). Ipswich Borough Council declared three AQMAs on the 11th of April 2006:

- *Ipswich Air Quality Management Order No 1, 2006: Norwich Road, Chevallier St and Valley Road*

This junction is located on one of the main routes into Ipswich town centre with four roads leading into a double mini roundabout (a map of the AQMA is shown in Figure 1). Generally, the area around this junction is open with some green space and buildings set back from the road. However, there is a public house (with flat above) and some residential flats that are both located adjacent to the junction. In addition, one road, Chevallier St, leading from the roundabout has terraced properties facing directly onto a pavement.

- *Ipswich Air Quality Management Order No 2, 2006: Junction of Crown St with Fonnereau Road and St Margaret's St and St Margaret's Plain*

This AQMA includes four roads all leading off each other (a map of the AQMA is shown in Figure 1). There are main traffic lights at the junction of St Margaret's St and St Margaret's Plain and pedestrian crossing lights just beyond the junction of Crown St and Fonnereau Road. The area along St Margaret's St was partially canyoned. St Margaret's St has historically been flanked by flats on one side, and a vacant building on the other. The vacant building has recently been demolished but historic permission has been given for this to be turned into residential dwellings. There are residential buildings on all roads within the AQMA.

- *Ipswich Air Quality Management Order No 3, 2006: Star Lane gyratory system and St Helen's St/Grimwade St.*

The gyratory system is a circular network of one-way roads located next to the docks (a map of the AQMA is shown in Figure 1). There are many residential dwellings (mainly high-rise flats) within these areas and some commercial and office buildings. Further development of the Gyratory system and Dockside is ongoing, although slower in recent times. Traffic flow through many of the areas of this AQMA can be congested.

The Department for Environment, Food and Rural Affairs (DEFRA) also requires that local authorities should submit annual air quality (Progress Reports) in between three yearly USAs. Ipswich Borough Council completed a Progress Report in September 2005.

Round 3

The third round of review and assessment commenced in 2006 and Ipswich Borough Council completed its USA in January 2008. The USA concluded that four of the seven prescribed pollutants were likely to meet their Air Quality Objectives and as such a Detailed Assessment was not required. However, it was found that further screening works for Benzene, Nitrogen Dioxide (NO2) and particulates (PM10) were required, as well as a Detailed Assessment of both NO2 and PM10 at the Yarmouth Road/ Bramford Road and Chevallier St Junction.

The Detailed Assessment, recommended in the USA, was completed in draft in December 2009 and finalised August 2010, and concluded that there were likely to be exceedences of the annual mean NO2 objective at this location. It was unlikely that the hourly objective will be exceeded. The predicted exceedences of the annual mean objective can be attributed to slow moving vehicles, congestion and queuing traffic.

A new AQMA was declared in December 2010 and is shown on figure 1:

- *Ipswich Air Quality Management Order No. 4, 2010: Bramford Road/Yarmouth Road/Chevallier St junction.*

For the pollutant PM10, modelling indicated a very unlikely risk of exceeding the annual mean PM10 objective in the base year and the future year of 2010.

The screening works resulting from the round 3 USA have been completed as part of round 4 USA. At the advice of DEFRA, the information usually included in a progress report has also been incorporated into the round 4 document.

Round 4

The fourth round of review and assessment began in 2009. The USA was completed in January 2010. The USA concluded that five of the seven prescribed pollutants were likely to meet the Air Quality Objectives. However, it was found that a Detailed Assessment for NO2 was required for the Civic Drive/St Matthews St junction and St Helens St, along with a Detailed Assessment of both NO2 and PM10 at a Biomass Boiler on Nacton Road. The Detailed Assessment of NO2 and PM10 of the Biomass Boiler on Nacton Road was completed in September 2011 and concluded that there was no need for any further assessments of this process. Further screening for NO2 and PM10 at the Biomass boiler at the Reg Driver Centre, Christchurch Park was also required and was reported in the 2010 Progress Report which was completed in October 2010. It was found that the emissions rates from the Reg Driver Centre were well below those requiring further investigation or screening.

The 2011 Progress Report highlighted a small number of locations outside of the existing Air Quality Management Areas, all of which are under investigation as part of ongoing assessments, or very close to an Air Quality Management Area boundary where they will be reviewed as part of a Further Assessment.

Particulate monitoring in the Borough showed no exceedences of the PM10 objectives over the course of 2010.

The detailed assessment of St Matthews Street roundabout area in 2010 indicated that concentrations of nitrogen dioxide are above air quality objective values along parts of St Matthews's Street either side of the Civic Drive Roundabout.

Based on this detailed assessment and review of the monitoring data within the areas under assessment it is concluded that specific areas along St Matthew's Street either side of the roundabout be declared as Air Quality Management Areas.

Similarly, a detailed assessment undertaken in 2010 indicated that concentrations of nitrogen dioxide are above air quality objective values along parts of St Helen's Street and Woodbridge Road. Based on this detailed assessment and review of the monitoring data within the areas under assessment it is concluded that further areas along St Helen's Street and Woodbridge Road be declared as Air Quality Management Areas.

Round 5

The fifth round of review and assessment began in 2012. The 2012 Updating and screening assessment concluded that there were continuing exceedances of the Nitrogen Dioxide annual average objective levels within the AQMA areas. Overall the 2011 diffusion tube assessment indicated a slight decline in the majority of the Nitrogen Dioxide levels in the borough although it was impossible to say at that stage if it was an ongoing pattern.

The 2013 Progress Report concluded that some locations within, and outside of the, existing AQMAs indicated exceedances of the nitrogen dioxide annual average objective level. A detailed assessment is required.

Summary

The various stages of the previous review and assessments are summarised in Table 1.2.

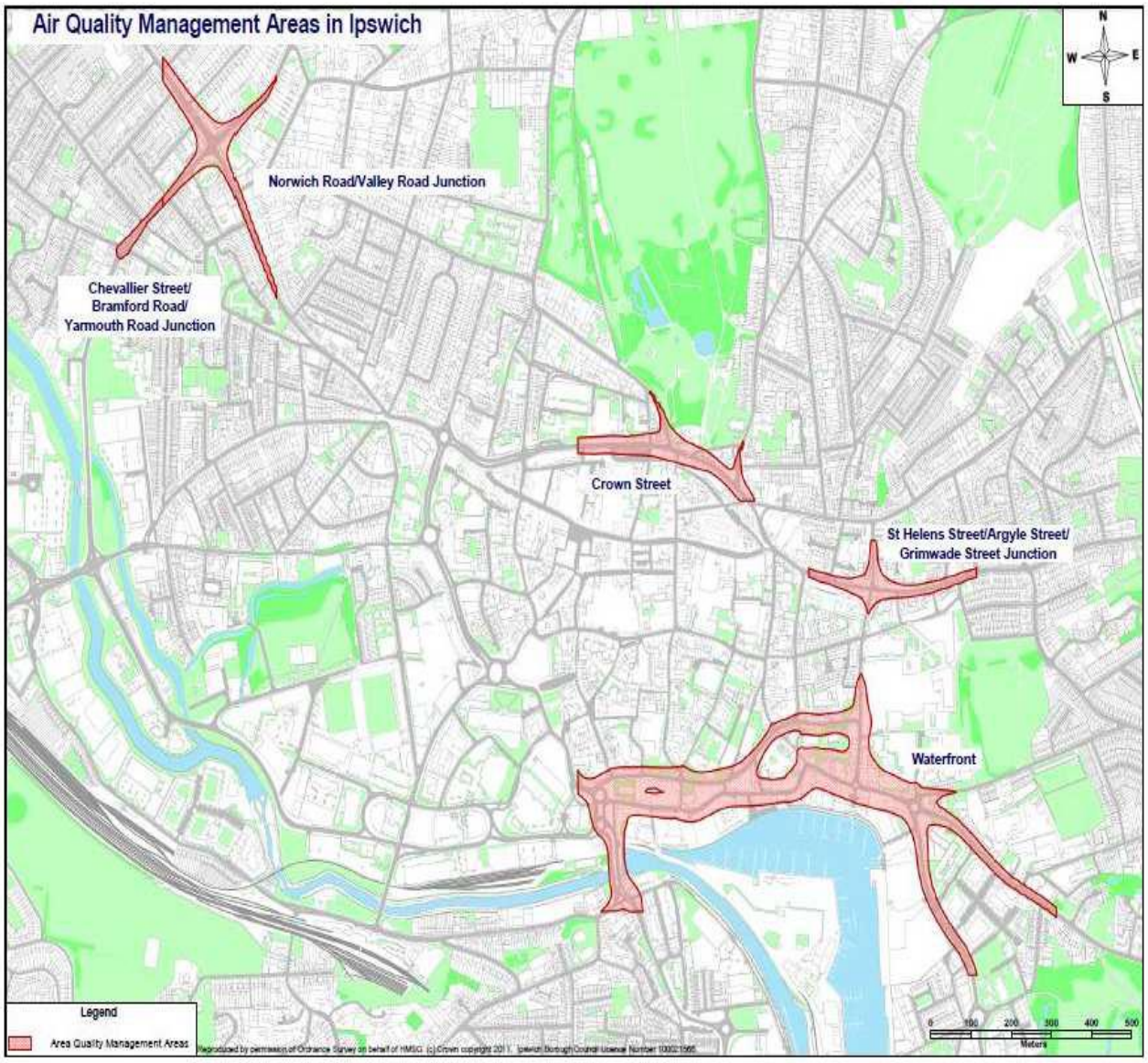
Table 1.2 Summary of previous review and assessments carried out by Ipswich Borough Council

Round	Date	Type of Assessment	Outcome/Conclusion
1	March 2001	Final assessment	Predicted that the Air Quality Objectives would be met. Areas of concern where levels of nitrogen dioxide from road traffic pollution were expected to be close to reaching the objective level were kept under review.
2	December 2003	Updating and Screening Assessment	Concluded that further detailed assessments of nitrogen dioxide from road traffic sources and particulate matter from an industrial source was required to determine whether Air Quality Objectives would be exceeded in 2005.
	July 2005	Detailed Assessment	Concluded that the annual mean objective pollution level would be exceeded along most of the roads under study
	April 2006		Declaration of 3 Air Quality Management Areas.
3	January 2008	Updating and Screening Assessment	Concluded that four of the seven prescribed pollutants were likely to meet their Air Quality Objectives and as such a Detailed Assessment was not required. Recommended further screening works for Benzene, Nitrogen Dioxide (NO_2) and particulates (PM_{10}) and a Detailed Assessment of both NO_2 and PM_{10} at the

			Yarmouth Road/ Bramford Road and Chevallier St Junction.
	January 2008	Further Assessment	Data included in the 2009 Updating and Screening Report as requested by Defra
	September 2008	AQ Action Plan	
4	January 2010	Updating and Screening Assessment	Concluded that a Detailed Assessment for nitrogen dioxide is required at St-Matthew's St and St-Helen's St. A Detailed Assessment was also required for a 2.90MW biomass combustion plant on Nacton Road for particulate matter with consideration given to nitrogen dioxide. Particulate matter and nitrogen dioxide emissions from the Reg Driver Centre, Christchurch Park, Ipswich also required further screening work.
	August 2010	Detailed Assessment - Yarmouth Road	Concluded that there were likely to be exceedences of the annual mean NO_2 objective at this location
	October 2010	Progress Report	Further investigation of emissions of particulate matter and nitrogen dioxide emissions from the Reg Driver Centre, Christchurch Park, Ipswich concluded that they are well below those requiring further investigation or screening. Particulate monitoring at one location within the borough show no exceedences of the objective levels. Six new or previously unidentified local developments were acknowledged as requiring further investigation during the next USA, scheduled for 2012.
	December 2010		Declaration of AQMA – Bramford Road/Chevallier St junction
	January 2011	Progress Report	Small number of locations outside of the existing AQMA identified, all of which are under investigation as part of ongoing assessments or very close to an AQMA where they will be reviewed as part of a Further Assessment. Particulate monitoring in the Borough showed no exceedences of the PM_{10} objectives over the course of 2010.
	September 2011	Detailed Assessment	NO_2 and PM_{10} at a Biomass Boiler on Nacton Road – concluded no exceedences of objective levels.
	August 2012	Detailed Assessment - St Matthews	It is concluded that specific areas along St Matthew's either side of the roundabout be declared as Air Quality Management Areas.

		Street	
	August 2012	Detailed Assessment - St Helen's Street	It is concluded that specific areas along St Helen's St and Woodbridge Road be declared as Air Quality Management Areas.
5	January 2013	Updating and Screening Assessment	Continuing exceedances of the Nitrogen Dioxide annual average objective levels within the AQMA areas. Overall the diffusion tube assessment 2011 indicated a slight decline in the majority of the Nitrogen Dioxide levels in the borough although it was impossible to say at that stage if it will be an ongoing pattern.
	February 2014	Progress Report	Diffusion tubes and Continuous Monitors located both within and outside of the existing AQMAs indicated exceedances of the nitrogen dioxide annual average objective level.

Figure 1.1 Map of AQMA Boundaries



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

The data considered in this Progress Report relates to monitoring results obtained in 2013. Results from previous years monitoring have been considered in the previous reports for those years.

2.1.1 Automatic Monitoring Sites

Ipswich Borough Council runs two Automatic Monitoring stations which monitor Nitrogen Dioxide concentrations and are located within AQMAs. These are located at Chevallier Street and St Margarets Street. Suffolk County Council have stopped monitoring at Star Lane and Ipswich Borough Council have stopped monitoring at Cliff Lane. Monitoring results from these closed sites can be found in previous reports.

Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	Inlet Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Chevallier Street	Urban Roadside	615257	245349	NO2	1.50	Y	Y (next door residential properties equal distance from kerb, approx. 2.5m)	2.5m	Y
St Margarets Street	Urban Roadside	616578	244759	NO2	2.70	Y	Y (sited immediately adjacent to residential property 3m)	3m	Y

2.1.2 Non-Automatic Monitoring Sites

During 2013, Ipswich Borough Council carried out non-automatic monitoring of NO_2 using diffusion tubes located at 69 different sites in the borough with a number of duplicate or triplicate tubes at chosen locations. The diffusion tubes monitor kerbside and roadside concentrations of NO_2 and 2 diffusion tubes monitor background concentrations of NO_2.

During 2013 the tubes were supplied to Ipswich Borough Council from Environmental Scientifics Group. The preparation method was 50% TEA in Acetone. A summary of the QA/QC information is reported in Appendix A.

Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	Tube No	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA ?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure?	Estimated distance of diffusion tube to kerb of nearest road	Worst-case Location?
Civic Drive	DT1	Urban Roadside	615999/244399	NO_2	N	N	Yes. Residential properties located equal distance from kerb.	3.8m	Y
Chevallier St o/s no. 6&8	DT2	Urban Roadside	615142/245242	NO_2	Y	N	Yes. On façade of property	1.7m	Y
Dock St	DT3	Urban Roadside	616379/243894	NO_2	Y	N	Yes. Residential properties located approximately 4.6m from kerb.	2.8m	Y
Berners St o/s No.31	DT4	Urban Roadside	615923/244923	NO_2	N	N	Yes. Residential properties located 1.7m from kerb.	1.7m	Y
Fore St	DT5	Urban Roadside	616860/244147	NO_2	Y	N	No.	1.7m	Y
Kings Avenue	DT6	Urban Background	617299/244412	NO_2	N	N	Located in park as background reading.	14.6m	N/A
Bramford Rd o/s 205	DT7	Urban Roadside	615004/245237	NO_2	N	N	Yes. Residential downpipe attached to no. 205	3m	Y
122 Bramford Rd	DT8	Urban Roadside	615133/245201	NO_2	N	N	Yes. Residential properties 3 m from kerb	1.5m	Y

122 Bramford Rd	DT9	Urban Roadside	615133/245201	NO_2	N	N	Yes. Residential properties 3 m from kerb	1.5m	Y
122 Bramford Rd	DT10	Urban Roadside	615133/245201	NO_2	N	N	Yes. Residential properties 3 m from kerb	1.5m	Y
St Margaret's St, Pipers Court co-located	DT11	Urban Roadside	616578/244759	NO_2	Y	Y	Yes. Residential properties located approximately 2.2m from kerb.	2.2m	Y
St Margaret's St, Pipers Court co-location	DT12	Urban Roadside	616578/244759	NO_2	Y	Y	Yes. Residential properties located approximately 2.2m from kerb.	2.2m	Y
Valley/Norwich Road	DT13	Urban Roadside	615361/245436	NO_2	Y	N	Yes. Residential approximately 5.5m from the kerb.	2.9m	Y
Chevallier St, outside number 63 co-located	DT14	Urban Roadside	615283/245391	NO_2	Y	N	Yes. Residential properties located approximately 2.6m from kerb.	2.6m	Y
Tavern St	DT15	Urban Centre	616277/244641	NO_2	N	N	Yes (background). Shops located approximately 0.5m from kerb. Pedestrian-only road with limited traffic flow in the morning and evening for loading and unloading.	On pedestrianised street	N/A
Valley/Norwich Road	DT16	Urban Roadside	615361/245436	NO_2	Y	N	Yes. Residential properties located approximately 2.6m from the kerb.	2.9m	Y
Chevallier St, outside number 63 co-located	DT17	Urban Roadside	615283/245391	NO_2	Y	N	Yes. Residential properties located approximately 2.6m from kerb.	2.6m	Y

5 Yarmouth Rd	DT18	Urban Roadside	615092/245137	NO_2	N	N	Yes. Residential property located 2m from kerb.	2m	Y
St Margaret's St, Pipers Court co-location	DT19	Urban Roadside	616578/244759	NO_2	Y	Y	Yes. Residential properties located approximately 2.2m from kerb.	2.2m	Y
St Margaret's Plain/Fonnereau Road	DT20	Urban Roadside	616455/244824	NO_2	Y	N	Yes. Flats and shops located approximately 2.2m from kerb.	2.2m	Y
St Margaret's Plain	DT21	Urban Roadside	616490/244806	NO_2	Y	N	Yes. Residential located approximately 1.7m from kerb, 9m down road from tube.	1.7m	Y
St Margaret's Plain/Northgate St	DT22	Urban Roadside	616477/244790	NO_2	Y	N	Yes. Public house located approximately 1.5m from kerb.	1.6m	Y
St Margaret's Green/ St Margaret's St	DT23	Urban Roadside	616641/244781	NO_2	Y	N	Yes. Residential properties located approximately 3m from kerb.	3m	Y
St Margaret's St	DT24	Urban Roadside	616659/244689	NO_2	Y	N	Yes. Residential properties located 3.2m from kerb o/s no.33	3.3m	Y
St Helen's St	DT25	Urban Roadside	616750/244578	NO_2	N	N	Yes. Flats located approximately 2.2m from kerb.	1.3m	Y
St Helen's St/Grimwade St	DT26	Urban Roadside	616968/244510	NO_2	Y	N	Yes. Residential properties located approximately 3.6m from kerb.	3.6m	Y
St Helen's St/Argyle St	DT27	Urban Roadside	616961/244536	NO_2	Y	N	Yes. Flats located approximately 1.7m from kerb.	1.5m	Y

32/34 Chevallier St	DT28	Urban Roadside	615192/245289	NO_2	Y	N	Yes. Residential properties located approximately 3m from kerb	1.5m	
Fore Hamlet	DT29	Urban Roadside	617102/244077	NO_2	Y	N	Yes. Flats located approximately 2.2m from kerb.	2.2m	Y
Fore St	DT30	Urban Roadside	616963/244106	NO_2	Y	N	Yes. Flats located approximately 7.7m from kerb.	4m	Y
Star Lane (opp. St Peters St) co-located	DT31	Urban Roadside	616336/244133	NO_2	Y	N	No. Hotel located across road. Proposed development sites in area.	2.4m	N
Star Lane (opp. St Peters St) co-located	DT32	Urban Roadside	616336/244133	NO_2	Y	N	No. Hotel located across road. Proposed development sites in area.	2.4m	N
Star Lane (opp St Peters St) co-located	DT33	Urban Roadside	616336/244133	NO_2	Y	N	No. Hotel located across road. Proposed development sites in area.	2.4m	N
College St	DT34	Urban Roadside	616466/244072	NO_2	Y	N	Yes. Residential properties located 1.7m from kerb.	1.7m	Y
Cobden Place	DT35	Urban Roadside	616743/244692	NO_2	N	N	Yes. Residential properties located 1.1m from kerb.	5.5m	Y
Franciscan Way/Wolsey St	DT36	Urban Roadside	616153/244242	NO_2	N	N	Yes. Residential properties located 1.85m from kerb.	1.9m	Y
Lower Brook St	DT37	Urban Roadside	616480/244163	NO_2	Y	N	No. Offices located 3.5m from kerb.	2.8m	Y
Civic Drive opp. no.1	DT38	Urban Roadside	615898/244789	NO_2	N	N	Road sign o/s drug rehab centre	1.5m	Y

Star Lane/Fore St	DT39	Urban Kerbside	616730/244246	NO_2	Y	N	No.	0.6m	Y
131 Norwich Road	DT40	Urban Roadside	615457/ 245144	NO_2	Y	N	Y (on lamp post outside no. 131)	1m	Y
69 Norwich Road	DT41	Urban Roadside	615562/ 245008	NO_2	N	N	Y (outside no.69)	1m	Y
8-10 Norwich Road	DT42	Urban Kerbside	615741/ 244899	NO_2	N	N	Y (downpipe between no's.8&9)	1m	Y
Yarmouth Rd/Bramford Rd	DT43	Urban Roadside	615107/245197	NO_2	Y	N	Yes. Residential properties located approximately 4.8m from kerb.	3.8m	Y
Bramford Road	DT44	Urban Roadside	615049/245234	NO_2	N	N	Yes. Residential properties located approximately 1.4m from kerb.	1.4m	Y
Chevallier St, Wellington Centre co-located	DT45	Urban Roadside	615257/245349	NO_2	Y	Y	Yes. Residential properties short distance along road 6.4m from kerb.	4.1m	Y
Chevallier St, Wellington Centre co-location	DT46	Urban Roadside	615257/245349	NO_2	Y	Y	Yes. Residential properties short distance along road 6.4m from kerb	4.1m	Y
Chevallier St, Wellington Centre co-location	DT47	Urban Roadside	615257/245349	NO_2	Y	Y	Yes. Residential properties short distance along road 6.4m from kerb.	4.1m	Y
Norwich Rd/Anglesea Road	DT48	Urban Roadside	615397/245337	NO_2	Y	N	Yes. Residential located approximately 1.8m from kerb.	1.8m	Y
St Matthews St		Urban	615803/244872	NO_2	N	N	Yes. Residential	1.8m	Y

	DT49	Roadside					properties located approximately 1.9m from kerb.		
Barrack Lane/St Matthews St	DT50	Urban Roadside	615758/244885	NO_2	N	N	Yes. Residential above shops, on post 2m from receptor	7m	Y
St Matthews St/Portman Rd	DT51	Urban Kerbside	615765/244865	NO_2	N	N	Yes. Residential Lamp post 650 located 5.4m from receptor	0.9m	Y
60 St Matthews St	DT52	Urban Roadside	615822/244869	NO_2	N	N	Yes. Residential above shops Downpipe o/s no.60 located 2.26m from receptor	2.14m	Y
67 St Matthews St	DT53	Urban Roadside	615817/244856	NO_2	N	N	Yes. Residential above shops Downpipe o/s no.67 Located 2.15m from receptor	2.15m	Y
St Matthews St/Berners St	DT54	Urban Roadside	615891/244863	NO_2	N	N	Yes. Residential above shops	8.95 m	Y
21 Berners St	DT55	Urban Roadside	615912/244893	NO_2	N	N	Yes. Residential Downpipe no.21 located 2.4m from receptor	2.25m	Y
32 Berners St	DT56	Urban Roadside	615928/244908	NO_2	N	N	No.Hotel 1.6m from receptor Downpipe no32 Grosvener	1.42m	Y
41-43 Berners St	DT57	Urban Roadside	615936/244977	NO_2	N	N	No. Hotel downpipe 41-43 Carlton	8m	Y
58 Berners St	DT58	Urban Roadside	615975/245034	NO_2	N	N	Yes. Residential Street lamp A779 o/s no.58 located 5m from receptor	4.1m	Y

St. Matthews St Roundabout co-located	DT59	Urban Roadside	615921/244841	NO_2	N	N	No. Shop 12.7m to receptor Sign o/s no.26	2.8m	Y
St. Matthews St Roundabout co-located	DT60	Urban Roadside	615921/244841	NO_2	N	N	No. Shop 12.7m to receptor Sign o/s no.26	2.8m	Y
St. Matthews St Roundabout co-located	DT61	Urban Roadside	615921/244841	NO_2	N	N	No. Shop 12.7m to receptor Sign o/s no.26	2.8m	Y
27 St. Matthews St	DT62	Urban Roadside	615926/244804	NO_2	N	N	No.Offices above shop located 6.7m to receptor Signpost o/s Iceland	1.8m	Y
St Matthews St o/s no. 19	DT63	Urban Roadside	615952/244785	NO_2	N	N	No. Offices above shop located 3.4m to receptor Downpipe no.19	3.4m	Y
13-15 Norwich Road co-located	DT64	Urban Kerbside	615686/ 244936	NO_2	N	N	Yes (on lamp post between no.'s 13&15	0.97m	Y
13-15 Norwich Road co-located	DT65	Urban Kerbside	615686/ 244936	NO_2	N	N	Yes (on lamp post between no.'s 13&15	0.93m	Y
30 Woodbridge Rd	DT66	Urban Roadside	616804/244667	NO_2	N	N	Yes. Façade of residential property no.30A	3.5m	Y
Woodbridge Rd/Blanch St	DT67	Urban Roadside	616886/244672	NO_2	N	N	Yes. Residential lamp post 6.8m to receptor	1.3m	*Y*
62 Woodbridge Rd	DT68	Urban Roadside	616901/244655	NO_2	N	N	Yes. Residential above shop on downpipe at no.62	3.2m	Y
	DT69	Urban	616974/244589	NO_2	Y		Yes. Residential on	4.5m	Y

2-4 Argyle St		Roadside				N	downpipe garage o/s Nos. 2-4		
11 Argyle St	DT70	Urban Roadside	616962/244572	NO_2	Y	N	Yes. Residential Lamp post 716 o/s no.11	1.2m	Y
93 St. Helens St	DT71	Urban Roadside	617027/244536	NO_2	Y	N	Yes. Downpipe attached to IBH Flat no.93	1.5m	Y
125 St. Helens St	DT72	Urban Roadside	617119/244534	NO_2	Y	N	Yes. Downpipe No.125	1.5m	Y
Regent St/St Helens St	DT73	Urban Roadside	617120/244518	NO_2	Y	N	Lamp post A3175	1m	Y
25 Grimwade St	DT74	Urban Roadside	616948/244438	NO_2	N	N	Yes.Downpipe o/s No. 25	3m	Y
28 Grimwade St	DT75	Urban Roadside	616928/244360	NO_2	N	N	Yes.Downpipe at façade of residential property	3.15m	Y
St Helen's St/Grimwade St	DT76	Urban Roadside	616948/244518	NO_2	Y	N	Downpipe o/s No.44	3m	Y
St Helen's St	DT77	Urban Roadside	616899/244539	NO_2	Y	N	Downpipe o/s No.41 Albury court	1.5m	Y
7 Orchard St co-located	DT78	Urban Roadside	616867/244583	NO_2	N	N	Yes. Lamp post o/s no.7	1.4m	Y
7 Orchard St co-located	DT79	Urban Roadside	616867/244583	NO_2	N	N	Yes. Lamp post o/s no.7	1.4m	Y
St Helen's St – County Hall co-located	DT80	Urban Roadside	616819/244543	NO_2	Y	N	No. Empty commercial property. Downpipe entrance county hall	2m	Y
St Helen's St – County Hall co-located	DT81	Urban Roadside	616819/244543	NO_2	Y	N	No. Empty commercial property. Downpipe entrance county	2m	Y

							hall		
St Helen's St – County Hall co-located	DT82	Urban Roadside	616819/244543	NO_2	Y	N	No. Empty commercial property. Downpipe entrance county hall	2m	Y
29 Bond St	DT83	Urban Roadside	616788/244497	NO_2	N	N	Yes. Road Sign no.345 o/s no.29	1.65m	Y
Carr St/Majors Corner	DT84	Urban Kerbside	616697/244595	NO_2	N	N	No. Commercial	0.5m	Y
5 Old Foundry Rd	DT85	Urban Roadside	616677/244622	NO_2	N	N	Yes, Residential on Pole A1640 o/s no.5	1.4m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO_2)

Automatic Monitoring Data

Table 2.3 summarises the results of the Automatic monitoring of Nitrogen Dioxide within the Ipswich borough compared to the annual average objective.

Table 2.3 Results of Automatic Monitoring for NO_2: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2013 % [b]	Annual Mean Concentration (µg/m^3)				
					2009	2010	2011	2012	2013
Chevallier Street	Urban Roadside	Y	92.5	92.5	32	34	31	34	**45**
St Margarets Street	Urban Roadside	Y	80.5	80.5	**48**	**51**	**50**	**49**	**52**

In bold, exceedence of the NO_2 annual mean AQS objective of 40µg/m^3

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

Table 2.4 Results of Automatic Monitoring for NO_2: Comparison with 1-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2013 % [b]	Number of Hourly Means > 200µg/m^3				
					2009* [c]	2010* [c]	2011* [c]	2012* [c]	2013 [c]
Chevallier Street	Urban Roadside	Y	92.5	92.5	3	0	1	3	0
St Margarets Street	Urban Roadside	Y	80.5	80.5	0	0	1	0	8 (174)

In bold, exceedence of the NO_2 hourly mean AQS objective (200µg/m^3 – not to be exceeded more than 18 times per year)

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] If the data capture for full calendar year is less than 90%, include the 99.8th percentile of hourly means in brackets

The results for the monitoring obtained at Chevallier Street increased significantly in 2013. The likely cause is very high results during the months of January to April which have influenced the annual average. The machine was changed in May and concentrations reduced. It is unknown why this occurred as both machines were serviced and data ratified to Defra specifications.

Both automatic monitors show an exceedance of the annual average nitrogen dioxide objective level. The hourly average objective level is not exceeded at either location.

Diffusion Tube Monitoring Data

Table 2.5 Results of NO_2 Diffusion Tubes 2013

Tube No	Location	Site Type	In AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2012 (Number of Months) [a]	2013Annual Mean Concentration (µg/m^3) – National Bias Adjustment factor = 0.8, except tube numbers 11,12 and 19 local factor 1.08
DT1	Civic Drive	Urban Roadside	N	N	12	27.8
DT2	Chevallier St o/s no. 6&8	Urban Roadside	Y	N	12	39.7
DT3	Dock St	Urban Roadside	Y	N	12	30.8
DT4	Berners St o/s No.31	Urban Roadside	N	N	12	34.5
DT5	Fore St	Urban Roadside	Y	N	12	**41**
DT6	Kings Avenue	Urban Background	N	N	12	17.3
DT7	Bramford Rd o/s 205	Urban Roadside	N	N	12	33
DT8	122 Bramford Rd	Urban Roadside	N	Y	12	35.2
DT9	122 Bramford Rd	Urban Roadside	N	Y	12	35.5
DT10	122 Bramford Rd	Urban Roadside	N	Y	12	34.1
DT11	St Margaret's St, Pipers Court	Urban Roadside	Y	Y	12	**53.2**
DT12	St Margaret's St, Pipers Court co-location	Urban Roadside	Y	Y	12	**52.8**
DT13	Valley/Norwich Road	Urban Roadside	Y	Y	12	34.1

DT14	Chevallier St	Urban Roadside	Y	Y	12	**49**
DT15	Tavern St	Urban Centre background	N	N	12	25.8
DT16	Valley/Norwich Road	Urban Roadside	Y	Y	12	35.7
DT17	Chevallier St	Urban Roadside	Y	Y	12	**50.7**
DT18	5 Yarmouth Rd]	Urban Roadside	N	N	12	31.1
DT19	St Margaret's St, Pipers Court co-location	Urban Roadside	Y	Y	12	**53.3**
DT20	St Margaret's Plain/Fonnereau Road	Urban Roadside	Y	N	12	32.6
DT21	St Margaret's Plain	Urban Roadside	Y	N	12	37
DT22	St Margaret's Plain/Northgate St	Urban Roadside	Y	N	12	38.2
DT23	St Margaret's Green	Urban Roadside	Y	N	12	22.8
DT24	St Margaret's St	Urban Roadside	Y	N	11	**40.8**
DT25	St Helen's St	Urban Roadside	N	N	12	39.7
DT26	St Helen's St/Grimwade St	Urban Roadside	Y	N	12	33
DT27	St Helen's St/Argyle St	Urban Roadside	Y	N	12	**43.7**
DT28	32/34 Chevallier St	Urban Roadside	Y	N	12	37.4
DT29	Fore Hamlet	Urban Roadside	Y	N	10	32.9
DT30	Fore St	Urban Roadside	Y	N	12	28.5
DT31	Star Lane (opp. St Peters St)	Urban Roadside	Y	Y	12	35.2
DT32	Star Lane (opp. St Peters St)	Urban Roadside	Y	Y	12	33.7
DT33	Star Lane (opp. St Peters St)	Urban Roadside	Y	Y	12	34.3
DT34	College St	Urban Roadside	Y	N	11	38.5

DT35	Cobden Place	Urban Roadside	N	N	12	26.9
DT36	Franciscan Way/Wolsey St	Urban Roadside	N	N	12	30.1
DT37	Lower Brook St	Urban Roadside	Y	N	12	27
DT38	Civic Drive opp. no.1	Urban Roadside	N	N	12	35.7
DT39	Star Lane/Fore St	Urban Kerbside	Y	N	12	**40.8**
DT40	Norwich Road	Urban Roadside	Y	N	12	27
DT41	Norwich Road	Urban Roadside	N	N	11	34.6
DT42	Norwich Road between 8 and 10	Urban Roadside	N	N	12	36.8
DT43	Yarmouth Rd/Bramford Rd	Urban Roadside	Y	N	12	37.4
DT44	Bramford Road	Urban Roadside	N	N	11	37.1
DT45	Chevallier St, Wellington Centre	Urban Roadside	Y	Y	12	29.1
DT46	Chevallier St, Wellington Centre co-location	Urban Roadside	Y	Y	12	29.6
DT47	Chevallier St, Wellington Centre co-location	Urban Roadside	Y	Y	12	30
DT48	Norwich Rd/Anglesea Road	Urban Roadside	Y	N	12	27.9
DT49	St Matthews St	Urban Roadside	N	N	12	**42.3**
DT50	Barrack Lane/St Matthews St	Urban Roadside	N	N	12	26
DT51	St Matthews St/Portman Rd	Urban Kerbside	N	N	12	35.4
DT52	St Matthews St o/s 60	Urban Roadside	N	N	12	**47.6**
DT53	St Matthews St o/s 67	Urban Roadside	N	N	12	**44.2**
DT54	St Matthews St/Berners St	Urban Roadside	N	N	12	30.5

DT55	Berners St o/s 21	Urban Roadside	N	N	12	32.4
DT56	Berners St o/s 32	Urban Roadside	N	N	12	25.9
DT57	Berners St o/s 41-43	Urban Roadside	N	N	12	26.6
DT58	Berners St o/s 58	Urban Roadside	N	N	10	26.8
DT59	St. Matthews St Roundabout	Urban Roadside	N	Y	12	34.1
DT60	St. Matthews St Roundabout	Urban Roadside	N	Y	12	35.2
DT61	St. Matthews St Roundabout	Urban Roadside	N	Y	12	33.4
DT62	St. Matthews St o/s 27	Urban Roadside	N	N	12	39.2
DT63	St Matthews St o/s no. 19	Urban Roadside	N	N	12	37.9
DT64	Norwich Road o/s 13-15	Urban Kerbside	N	Y	12	**52.4**
DT65	Norwich Road o/s 13-15	Urban Kerbside	N	Y	12	**53.5**
DT66	30 Woodbridge Rd	Urban Roadside	N	N	12	37.5
DT67	Woodbridge Rd/Blanch St	Urban Roadside	N	N	12	28.9
DT68	62 Woodbridge Rd	Urban Roadside	N	N	12	**47.6**
DT69	Argyle St o/s 2-4	Urban Roadside	Y	N	12	29.2
DT70	Argyle St o/s 11	Urban Roadside	Y	N	11	36.0
DT71	St. Helens St o/s 93	Urban Roadside	Y	N	11	26.7
DT72	St. Helens St o/s 125	Urban Roadside	Y	N	12	39.1
DT73	Regent St/St Helens St	Urban Roadside	Y	N	12	25.2
DT74	Grimwade St o/s 25	Urban Roadside	N	N	12	28.7
DT75	Grimwade St o/s 28	Urban Roadside	N	N	12	24.4

DT76	St Helen's St/44 Grimwade St	Urban Roadside	Y	N	12	35.7
DT77	St Helen's St – Albury Ct	Urban Roadside	Y	N	12	29.5
DT78	7 Orchard St	Urban Roadside	N	Y	12	24.7
DT79	7 Orchard St	Urban Roadside	N	Y	12	25
DT80	St Helen's St – County Hall	Urban Roadside	Y	Y	12	36.1
DT81	St Helen's St – County Hall	Urban Roadside	Y	Y	12	36.2
DT82	St Helen's St – County Hall	Urban Roadside	Y	Y	12	36.3
DT83	29 Bond St	Urban Roadside	N	N	12	31
DT84	Carr St/Majors Corner	Urban Kerbside	N	N	12	28.8
DT85	5 Old Foundry Rd	Urban Roadside	N	N	12	30.8

In bold, exceedence of the NO_2 annual mean AQS objective of 40µg/m^3

Underlined, annual mean > 60µg/m^3, indicating a potential exceedence of the NO_2 hourly mean AQS objective

[a] Means should be "annualised" as in Box 3.2 of TG(09)(http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38), if full calendar year data capture is less than 75%

[b] If an exceedence is measured at a monitoring site not representative of public exposure, NO_2 concentration at the nearest relevant exposure should be estimated based on the "NO_2 fall-off with distance" calculator (http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html), and results should be discussed in a specific section. The procedure is also explained in Box 2.3 of Technical Guidance LAQM.TG(09) (http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=30).

Ipswich Borough Council monitored nitrogen dioxide using diffusion tubes in strategic locations around the borough. As can be seen from the results table above, there were 15 exceedances of the objective level. Nine of these were within existing AQMAs.

Of the tubes showing exceedance of the objective level, most were representative of public exposure. However, four are in locations slightly closer to the kerb than the public exposure and therefore require fall off with distance calculations:

Tube 27 - recalculated result 43ug/m3.
Tube 49 – recalculated result 42ug/m3.
Tube 52 – recalculated result 42.4ug/m3.
Tube 53 – recalculated result 39.8ug/m3.

Tube 5 and 39 are not directly relevant to public exposure but help to define the boundaries of the AQMA.

Bias adjusting to the national bias adjustment factor reduced the tube results significantly. It was unfortunate that the tubes could not be adjusted to the local factor but one of the automatic monitors (Chevallier Street) had an unusually high result for the year due to 4 high results between January and April before the machine was changed. It is unknown as to whether the results were abnormal but the Council has been advised to use the results with care. St Margarets Street monitor was used to bias adjust the tubes co-located on the monitor but were not used for adjusting any other tube results because of its unusual position in a large entrance covered area in a block of flats.

There were no monitoring locations where the annual mean was > 60ug/m3 and therefore no indication of a potential exceedance of the NO_2 hourly mean air quality objective level.

2.2.2 Particulate Matter (PM_{10})

Ipswich Borough Council does not monitor for particulate matter.

2.2.3 Sulphur Dioxide (SO_2)

Ipswich Borough Council does not monitor for Sulphur Dioxide.

2.2.4 Benzene

Ipswich Borough Council does not monitor for Benzene

2.2.5 Other Pollutants Monitored

Ipswich Borough Council does not monitor for any other pollutants relevant to Local Air Quality Monitoring.

2.2.6 Summary of Compliance with AQS Objectives

Ipswich Borough Council has examined the results from monitoring in the Ipswich Borough.

Concentrations still exceed the annual average objective for Nitrogen Dioxide at various locations within the AQMAs and the AQMAs should remain.

In general concentrations outside of the AQMA are all below the objectives at relevant locations. However there are 6 potential exceedances outside of the AQMAs which require further assessment and there is a need to proceed to a Detailed Assessment. The Detailed Assessment is ongoing and will be submitted to Defra shortly.

3 New Local Developments

3.1 Road Traffic Sources

Ipswich Borough Council were late submitting the 2012 Progress Report – submitting it in February 2014. There are no known changes in Road Traffic sources between the last submission and this one.

Ipswich Fit for the 21st Century is ongoing and will involve a number of changes to junctions and public transport. These will be considered in the next Updating and Screening Assessment.

In particular, the following should be considered:

- the junction changes to Civic Drive/Princes Street;
- the upgrade to the Tower Ramparts Bus Station;
- Myrtle Road/Felixstowe Road changes (change to one way);
- Cattle Market bus station upgrade;
- Barrack Corner traffic lights/pedestrian crossing.

3.2 Other Transport Sources

A new rail link, Ipswich Chord, is nearing completion and is now in use. Air Quality was considered as part of the planning application process for this development. This link should assist in the freight movement to and from Felixstowe docks and will not significantly impact on air quality within the borough.

3.3 Industrial Sources

There are no known new industrial sources of pollution within the borough. There is a new incinerator at Great Blakenham, outside of the Ipswich Borough.

3.4 Commercial and Domestic Sources

There are a number of Biomass Boilers within the borough that will require reporting on in the next Updating and Screening Assessment:
Ipswich Hospital Energy Centre
Sainsburys, Hadleigh Road
Schools – Cedars Park Primary School and Ormiston Endeavor Academy.

There are no records of a significant increase in domestic solid fuel burning.

3.5 New Developments with Fugitive or Uncontrolled Sources

There are no new or newly identified potential sources of fugitive or uncontrolled particulate matter since the last progress report.

Ipswich Borough Council has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.
The following should be considered:
Road Traffic

- the junction changes to Civic Drive/Princes Street;
- the upgrade to the Tower Ramparts Bus Station;
- Myrtle Road/Felixstowe Road changes (change to one way);
- Cattle Market bus station upgrade;
- Barrack Corner traffic lights/pedestrian crossing.

Industrial Sources

- Great Blakenham Incinerator

Biomass Boilers

- Ipswich Hospital Energy Centre
- Sainsburys, Hadleigh Road
- Schools – Cedars Park Primary School and Ormiston Endeavor Academy.

These will be taken into consideration in the next Updating and Screening Assessment.

4 Planning Applications

An application has been submitted for the demolition of a local hospital and redevelopment for 180 new dwellings. This is still in the early stages but will need to be considered in the next Updating and Screening Assessment.

Ipswich Northern Fringe is an area of Ipswich identified through the adopted Core Strategy and Policies Development Plan Document for the development of housing and associated facilities prior to 2021 on part, and as a broad area for housing and associated facilities after 2021 on the remainder. The area extends to approximately 200ha and lies on the northern edge of the urban area, between Henley Road in the west and Tuddenham Road in the east and is likely to have over 3000 residential properties, and associated schools, shops etc.

5 Air Quality Planning Policies

The Suffolk Air Quality Management Group, consisting of all the Suffolk local authorities, developed a supplementary guidance document for air quality in planning. It is aimed at developers, their consultants and Suffolk Local Authority staff and will help to ensure consistency in the approach to planning and dealing with air quality within Suffolk and ensure that it is addressed at the earliest opportunity.

6 Local Transport Plans and Strategies

The 2013 Progress report, submitted February 2014, reported on the Local Transport Plan and the information is repeated here:

The 2011-2039 Local Transport Plan sets out Suffolk County Council's long-term transport strategy for the next 20 years. The key focus of the plan is to support Suffolk's economy as it recovers from the recession and to support future sustainable economic growth. The Suffolk Local Transport Plan supports 'Transforming Suffolk: Suffolk's Sustainable Community Strategy'.

The headline themes of the community strategy are:
• creating a prosperous and vibrant economy
• improving learning and skills for the future
• creating the greenest county
• providing safe, healthy and inclusive communities.

A number of strategic transport improvements are planned for delivery in the short/medium term. These include the council's major transport scheme Ipswich – Transport fit for the 21st Century, the Government's trunk road schemes to complete the dualling of the A11 and improve the A14/A12 junction at Copdock, and the Ipswich Rail Chord. Longer term improvements could potentially involve the remodelling of the roads around the waterfront following a study by consultants Buchanan. In this proposal the connectivity between the town centre and the waterfront area would be improved by a reduction in the volume of traffic using the Star Lane gyratory with a consequent improvement in air quality. This scheme will be considered for implementation during the life of the plan.

Another long-term aspiration for Ipswich is a bridge to improve access to the Wet Dock Island alongside future development. The financial viability of development and the affordability of a bridge will be important considerations if this idea is to become a reality.

7 Climate Change Strategies

Ipswich Borough Council has not yet published a Climate Change Strategy. However, a comprehensive Environment Strategy has been adopted by the Council. The Environment Strategy is an overarching document which explains how other strategies, policies, and plans contribute to the councils environmental objectives. Included within the document is a brief summary of air quality work and the links to climate change. The main link between the air quality work and the climate change work within Ipswich is on transport and the need to move to sustainable travel and reduce emissions to air. The Ipswich AQMAs exist because of congestion and high levels of vehicle use-age.

8 Implementation of Action Plans

A progress report on the Action Plan was included in the 2013 Air Quality Progress Report. The information has not changed since February 2014 when the report was submitted. Updates will be included in future reports.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Ipswich Borough council has monitored nitrogen dioxide within the borough. Concentrations were above the objective levels in 15 locations. Of these, 9 areas of exceedance were within existing AQMAs and the AQMAs should remain. In general concentrations outside of the AQMA are all below the objectives at relevant locations. However, there are 6 potential exceedances outside of the AQMAs, 5 of which require Detailed Assessment. The other site fell below the objective level once fall off with distance corrections had been applied.

There is a need to progress to a Detailed Assessment and this is ongoing.

9.2 Conclusions relating to New Local Developments

A number of new local developments that will require consideration in the next Updating and Screening Assessment have been reported. These are:

Road changes:

- the junction changes to Civic Drive/Princes Street;
- the upgrade to the Tower Ramparts Bus Station;
- Myrtle Road/Felixstowe Road changes (change to one way);
- Cattle Market bus station upgrade;
- Barrack Corner traffic lights/pedestrian crossing.

A **new incinerator** at Great Blakenham should be considered.

Biomass Boilers:

Ipswich Hospital Energy Centre

Sainsburys, Hadleigh Road

Schools – Cedars Park Primary School and Ormiston Endeavor Academy.

Planning and development:

Development of St Clements hospital site.

Northern Fringe.

None of these give rise to the need for immediate progression to a Detailed Assessment.

9.3 Proposed Actions

The Detailed Assessment required to declare either a larger AQMA to include the areas showing exceedance outside of the existing AQMAs, or to declare more small AQMAs is ongoing and will be concluded within the next three months. It has been worked on alongside this progress report as both reports are required by Defra. Whilst a requirement has been placed on the Council to confirm the support of a town centre wide AQMA (or not) in this progress report, this is not yet possible. Monitoring data from the past few years is still being analysed to enable the council to make a decision on the most appropriate declaration area for the AQMA or AQMAs.

Appendices

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

Diffusion Tubes

The diffusion tubes were supplied to Ipswich Borough Council by Environmental Scientifics Group Ltd, Unit 12, Moorbrook, Southmead Industrial Estate, Didcot, Oxfordshire, OX11 7HP. They were prepared as 50% TEA in Acetone.

The manufacture and analysis of the NO2 diffusion tubes is covered by UKAS accreditation. The method meets the requirements laid out in the UK's 'Diffusion Tubes for ambient NO2 Monitoring: Practical Guidance.'

Having taken part in the independent NO2 WASP proficiency scheme since its inception in 1999, Environmental Scientifics Group continue to achieve 'Satisfactory/good' since the schemes inception.

A control tube is sent with each months tubes.

The bias adjustment figure used was a national figure of 0.8 taken from the database available on the LAQM Support website, version 3/14. Local factors were not considered appropriate for the following reasons:
Chevallier Street monitor – whilst this monitor was serviced and calibrated throughout the year, and the data ratified, the results were very high for Jan – April 2013. The machine was changed in May and the results reduced. This appeared to impact on the annual averaged result which was much higher than historically it had been for this site. Following advice from the LAQM helpdesk it was decided to be cautious and not use the local adjustment factor.
St Margarets Street – this machine sits in a unique position and as such was used to bias adjust the tubes near to the monitor only.

Automatic Monitors

The automatic monitors are routinely calibrated every 2 weeks by an Ipswich Borough Council Environmental Protection Officer. They are serviced twice a year by contractors.

All data collected from the automatic monitors in managed by external consultants to quality procedures developed under the UK National Network. The data management processes represent best practice and fully meet the requirements set out in LAQM TG(09).

All data are screened and scaled (on the basis of site calibrations) and the final data sets presented within this report have benefited from a full process of data ratification, including thorough additional data quality checks that include site audits and a ratification process that corrects data for instrument sensitivity drift between routine calibrations.