



Knowsley Council

2014 Air Quality Progress Report for Knowsley MBC

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

April 2014

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Executive Summary

Local Authorities in the UK have the statutory duty to review and assess air quality on a regular basis which involves the production of reports on a three year cycle.

The Progress Report is intended to maintain continuity in the Local Air Quality Management process and present the results of ongoing monitoring of air quality pollutants within the Borough where emissions from a range of sources could adversely impact sensitive receptors.

Previous Updating and Screening Reviews have been undertaken and all the pollutants included for the purpose of Local Air Quality Management were reassessed individually and the outcome of the review was that none of the Air Quality Objectives were predicted to be exceeded by the due dates and that a Detailed Assessment was not required.

Road transport is the main source of local air pollution in Knowsley and has shown a decrease in air pollution levels in recent years. The Council's urban monitoring site operating 1999–2013 indicates a stable level of pollutants. Diffusion Tube monitoring was carried out for a period of five years after which it was decided that the combination of cost and levels of pollutant had stabilised enough to below an actionable level to discontinue the tubes.

Local monitoring data, the planning system and traffic information have been utilised so that there is a continuing examination of the local air quality to ensure that all Air Quality Objectives are met.

There have been no significant changes since the previous reviews took place

The Progress Report details the automatic real-time monitoring and considers whether new or proposed developments have the potential to impact local air quality which may lead to an exceedence of Air Quality Objectives.

Based on the findings of this Progress Report, Knowsley Metropolitan Borough Council has found that the levels of nitrogen dioxide and particulates (PM₁₀) do not exceed the specific Air Quality Objectives and therefore has identified there is **no need to proceed to a Detailed Assessment** for either of the pollutants.

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1 Introduction

1.1 Description of Local Authority Area

Knowsley is one of five metropolitan districts of Merseyside and is situated 9 miles to the east of Liverpool and 30 miles to the west of Manchester. It has a population of 151,000 in 61,000 households and covers an area of some 33.38 square miles (8,646 ha) of which 53% is designated greenbelt. The urban areas are Kirkby, Huyton, Stockbridge Village, Prescot, Whiston and Halewood. Each has a distinct character as do the villages of Knowsley, Cronton and the rural areas of Simonswood and Tarbock.

A map showing Knowsley and surrounding area



Knowsley is home to a wide range of industrial and commercial developments and is an important location for employment in the Liverpool City Region and a major source of workers for the area. The borough has a large industrial base concentrated mainly on Knowsley Industrial and Business Parks in Kirkby, the Huyton, Kings and Prescot Business Parks, as well as the Jaguar in Halewood.

Neighbouring Authorities also house large industries that can have an impact on the air quality of Knowsley. For example Fiddlers Ferry power station in Warrington lies to the south of the borough and the Shell oil refinery and petro-chemical complex in Ellesmere Port lie to the south west of Knowsley as well as three major glass manufacturing sites in St.Helens.

Traffic movements within the borough also play a significant role when considering air quality. Knowsley has a variety of road communication links. The M57 is the 'backbone' of the Borough, running North West to South East. The M62 and A580 (East Lancashire Road) link with the M57 and cut through the Borough East to West.

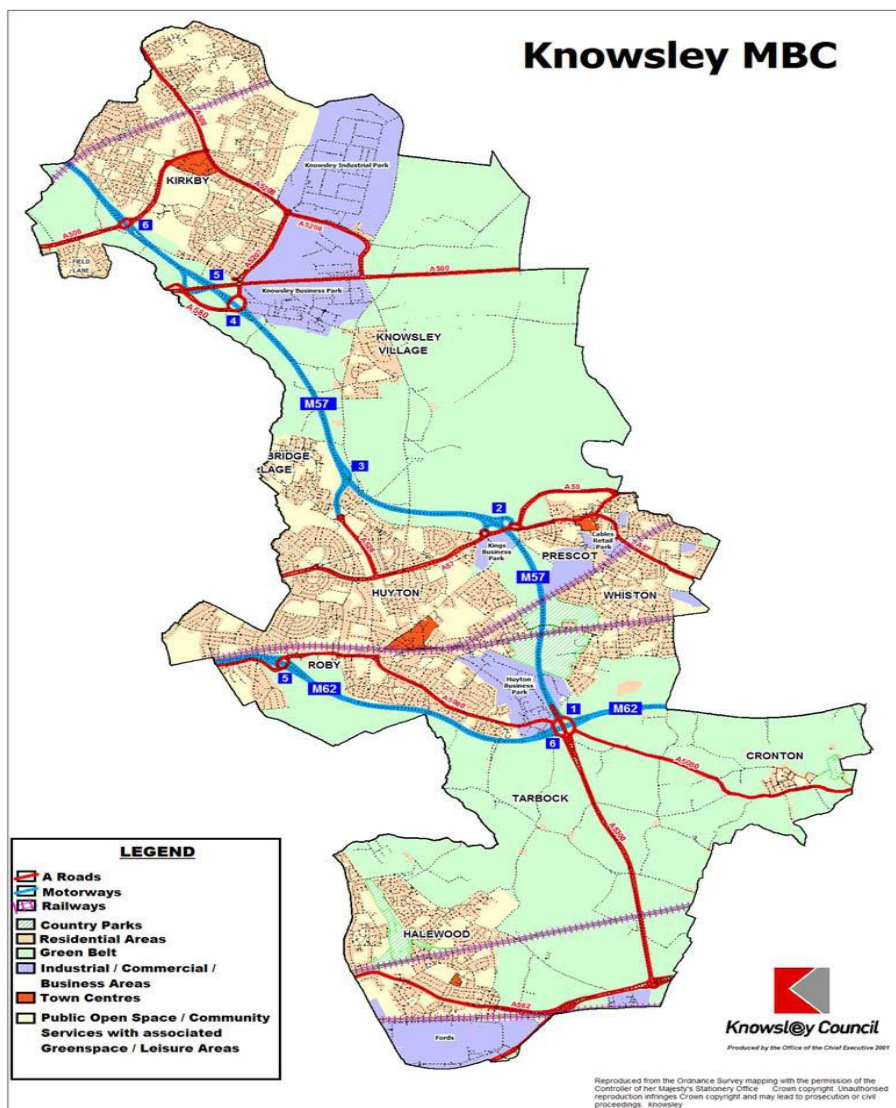
The southerly extension to the M57 was completed in 1996 and has been given the Route Number A5300. The motorway and main A roads are connected via a network of smaller roads which link the many towns in Knowsley.

The main sources of air pollution in Knowsley, as identified from previous air quality review and assessments and the work carried out in the Merseyside Atmospheric Emissions Inventory are from road traffic vehicle emissions and from industrial sources.

The junction of the M62 with the M57 at Tarbock Island was identified as a major congestion hotspot particularly at rush hour periods. In 2008 Tarbock Island interchange was re-aligned in order to improve traffic flow through the junction. Since the work was undertaken congestion levels at this junction have significantly reduced.

There are 14 Part A1 and 28 Part A2/B Installations in Knowsley MBC.

A map showing the major urban areas and roads in Knowsley



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 microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (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 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.50 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particulate Matter (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, 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 - Review and Assessment

The first review and assessment process was carried out between 2000 and 2002. The assessment did not identify any exceedences of the current Air Quality Objectives. Consequently there was no requirement to proceed to a detailed assessment nor to declare any Air Quality Management Areas within the borough.

Round 2 - Review and Assessment

The second of the review and assessment process was carried out between 2003 and 2005. The assessment did not identify any exceedences of the current Air Quality Objectives. Consequently there was no requirement to proceed to a detailed assessment or to declare any Air Quality Management Areas within the borough.

Round 3 - Review and Assessment

The third of the review and assessment process was carried out between 2006 and 2008. The assessment did not identify any exceedences of the current Air Quality Objectives. Consequently there was no requirement to proceed to a detailed assessment or to declare any Air Quality Management Areas within the borough.

Round 4 - Review and Assessment

The fourth round of the review and assessment process was carried out between 2009 and 2011. The Updating & Screening Assessment 2009 (USA), considered the results of air quality monitoring carried out in 2008 at Briery Hey Avenue, Kirkby and various diffusion tube locations across Knowsley. In addition, the assessment consisted of applying various screening criteria for the purpose of considering whether new or significantly changed sources of air pollutants may lead to an exceedence of an Air Quality Objective for any of the seven key pollutants. The USA indicated no exceedences were likely to occur in Knowsley.

Round 5 - Review and Assessment

Round 5 in 2012 the USA did not identify any exceedences. It was found there was no evidence to suggest that the levels of any of the seven pollutants may exceed the specific Air Quality Objectives and consequently there was no requirement to proceed to a detailed assessment or to declare any Air Quality Management Areas within the borough.

Population exposure to traffic-related pollutants is expected to be higher near major roads with a high percentage of HGV's, at busy road junctions, and in narrow and congested town centre streets. Several investigations have found Knowsley has no sensitive population exposed to these areas.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

At the end of 2013 Knowsley Council had one real time AUN type site located on Briery Hey Avenue, in Northwood Kirkby. The site became operational in March 2008. Grid Reference for monitoring location is X341774, Y398802.

Further details are provided in Table 2.1. The location of the monitor is shown in Fig 2.1. Information regarding the QA/QC for the monitoring equipment is provided in Appendix 1.

The monitoring equipment is located in an urban background location. The monitors are calibrated by local officers every two weeks and serviced on a 6 monthly basis by Enviro Technology Services. The equipment is enclosed in a secure groundhog unit and contains

- Chemiluminescent NO_x monitor
- Met One BAM 1020 with a PM₁₀ head
- Met One BAM 1020 with a PM_{2.5} head

It is hoped that funding can be secured to allow monitoring to take place in a different location in the future.

Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	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?
Briery Hey Northwood	Urban background	X 341774 Y 398802.	NO _x PM10 PM2.5	N	Y (35m)	16m	N

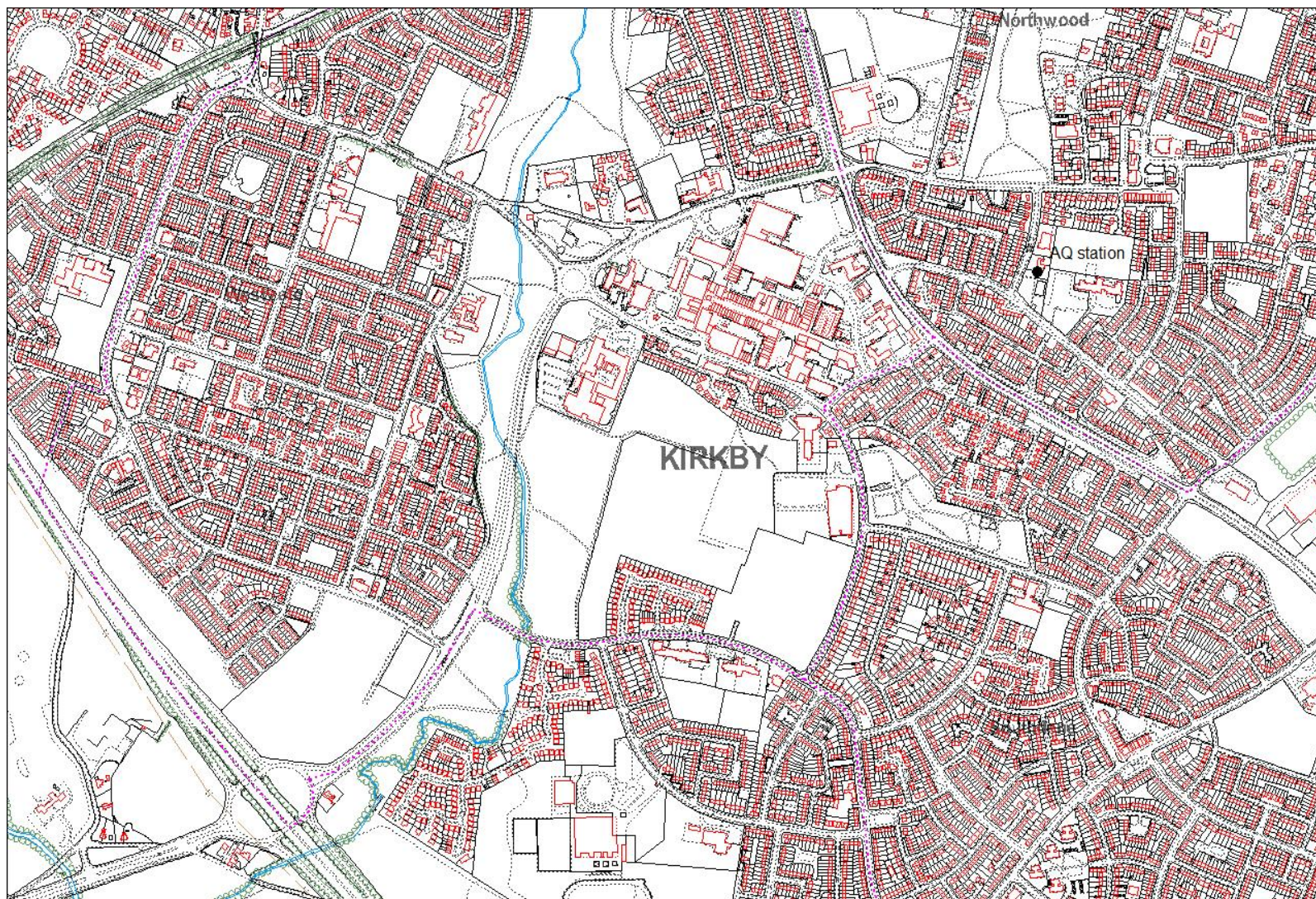


Figure 2.1
Map Showing
Location of
Automatic
Monitoring Site

2.1.2 Non-Automatic Monitoring Sites

Knowsley MBC carried out non-automatic monitoring for NO₂ using nitrogen dioxide diffusion tubes. The tubes were located at numerous roadside and kerbside locations throughout Knowsley. The monitoring was carried out for a period of five years after which it was decided that the combination of cost and levels of pollutant had stabilised enough to be below an actionable level to discontinue the diffusion tubes. Details of the diffusion tubes can be found in table 2.4.

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Unfortunately the data capture rate is below the recommendation set out in LAQ.TG (09)¹ due to equipment failure and where only short-term periods of monitoring data are available, the results may be adjusted to estimate an annual mean concentration using the approach set out in Box 3.2.

Based on the adjustment January 2013 to December 2013 monitoring data:

The automatic monitoring data show that the annual mean and hourly mean Objective at the Briery Hey site have been met.

Automatic Monitoring Data

Table 2.2 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Valid Data Capture for period of monitoring %	Valid Data Capture for 2013 %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)					
					2008	2009	2010	2011	2012	2013
Kirkby	Briery Hey	N	–	–	22.3	21.0	22.8	18	20.3	21

Table 2.3 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Site ID	Location	Within AQMA?	Valid Data Capture for period of monitoring %	Valid Data Capture for 2013 %	Number of Exceedences of hourly mean ($200 \mu\text{g}/\text{m}^3$)					
					2008	2009	2010	2011	2012	2013
Kirkby	Briery Hey	N	–	–	0	0	0	0	0	0

Table 2.4 Annual Diffusion Tubes Concentrations

Site Name	Site Type	Within AQMA	Annual mean concentrations (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2008*	2009**	2010***	2011****	2012*****
Cherryfield Drive 1	Kerbside	N	40	37	34	40	37
Valley Road 1	Roadside	N	35	29	27	35	28
Tithebarn Lane 1	Roadside	N	32	28	26	30	26
Valley Road 2 (M57)	Roadside	N	45	43	39	36	36
Bewley Drive 1	Kerbside	N	32	26	22	31	28
Bewley Drive 2	Kerbside	N	29	28	26	30	27
Cherryfield Drive 2	Kerbside	N	32	30	26	29	29
Cherryfield Drive 3	Kerbside	N	33	29	27	34	28
Cherryfield Drive 4	Kerbside	N	35	30	28	37	32
Kirkby Row 1	Kerbside	N	30	28	25	30	28
Hall Drive 1	Kerbside	N	33	29	27	33	28
County Road 1	Kerbside	N	34	31	27	34	29
County Road 2	Roadside	N	32	27	26	28	29

* Bias adjustment factor for 2008 data is 0.92

** Bias adjustment factor for 2009 data is 0.90

*** Bias adjustment factor for 2010 data is 0.92

**** Bias adjustment factor for 2011 data is 0.89

***** Bias adjustment factor for 2012 data is 0.97

Cherryfield Drive 1 has no relevant population.

Information regarding the QA/QC of the diffusion tubes is provided in Appendix 1

The diffusion tubes used by Knowsley MBC are supplied and analysed by Gradko Environmental using a 20% TEA/water solution. A bias adjustment figure was obtained from the DEFRA web site [bias-adjustment](#)

2.2.2 Particulate Matter (PM₁₀)

Unfortunately the data capture rate is below the recommendation set out in LAQ.TG (09) ¹ due to equipment failure and were only short-term periods of monitoring data are available, the results may be adjusted to estimate an annual mean concentration using the approach set out in Box 3.2.

Based on the adjustment January 2013 to December 2013 monitoring data:

The automatic monitoring data show that the annual mean and 24 hour mean Objective at the Briery Hey site have been met.

Table 2.5 Results of PM₁₀ Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Valid Data Capture for period of monitoring %	Valid Data Capture for 2013 %	Annual mean concentrations (µg/m ³)					
					2008	2009	2010	2011	2012	2013
Kirkby	Briery Hey	N	–	–	23.3	24	22	24	23	25

Table 2.6 Results of PM₁₀ Automatic Monitoring: Comparison with 24-hour Mean Objective

Site ID	Location	Within AQMA?	Valid Data Capture for monitoring period %	Data Capture 2013 %	Number of Exceedences of daily mean objective 50 µg/m ³					
					2008	2009	2010	2011	2012	2013
Kirkby	Briery Hey	N	–	–	10	8	1	18	14	8

2.2.3 Sulphur Dioxide

Monitoring of sulphur dioxide ceased in December 2007 when the Page Moss One Stop Shop site was decommissioned. It was decided when the monitoring station was moved to Northwood, Kirkby no further monitoring would take place as the monitoring data collected at the Page Moss One Stop Shop had consistently shown between 2000 and 2007 that no exceedances of the sulphur dioxide objectives had occurred in that time.

2.2.4 Benzene

No Benzene monitoring is carried out in the Knowsley MBC area.

2.2.5 Other pollutants monitored

At present only oxides of nitrogen and particulate matter are monitored in Knowsley.

2.2.6 Summary of Compliance with AQS Objectives

Knowsley MBC has examined the results from monitoring in the borough. Concentrations of all the pollutants are below the Objectives, therefore there is no need to proceed to a detailed assessment.

3 New Local Developments

There have been no local developments which have any impact on local air quality.

3.1 Road Traffic Sources

Knowsley Metropolitan Borough Council has identified no new significant 'Road Traffic Sources' in 2013.

3.2 Other Transport Sources

Knowsley Metropolitan Borough Council has identified no new 'Transport Sources' in 2013.

3.3 Industrial Sources

Knowsley Metropolitan Borough Council has identified three 'Industrial Source' that have been granted planning permission in 2013. Section 5 outlines details of the planning application and the findings of the air quality assessments which accompanied the applications. The air quality assessment indicated that there is no likelihood of a breach of any air quality Objective as a result of this development.

3.4 Commercial and Domestic Sources

Knowsley Metropolitan Borough Council has identified no new significant 'Commercial Sources' that have been granted planning permission in 2013.

3.5 New Developments with Fugitive or Uncontrolled Sources

Knowsley Metropolitan Borough Council has identified no new significant 'Developments with Fugitive or Uncontrolled Sources' in 2013.

Knowsley Metropolitan Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

4 Local / Regional Air Quality Strategy

Knowsley Metropolitan Borough Council is one of the founder members of the Merseyside and Cheshire Air Quality Management Group. The work of the group allows for a co-ordinated approach to air quality issues across the region. Much of the work undertaken in the last 20 years has benefited from this approach and includes cross-region monitoring and modelling, a fully comprehensive Regional Pollution Emissions Inventory, involvement in the developments of Local Transport Plans and the development of the Merseyside Supplementary Planning Documents. Knowsley have been an active participant in the Liverpool City Region Low Emission Strategies Partnership and a Regional Low emission and Air Quality Planning Guidance Note which has produced a number of proposals for action across the region.

Knowsley Metropolitan Borough Council does not currently have a borough specific Air Quality Strategy, though the need for one will be kept under review.

5 Planning Applications

Knowsley Metropolitan Borough Council has a number of approved planning applications for new developments which had the potential to impact upon local air quality. A brief summary of these applications is set out below:

Change of use of distribution depot to waste reception building 12/00669/COU

Change of use of vacant unit (class B8) to form a healthcare waste treatment and transfer operation (use class sui generis) facilitating the treatment and temporary storage of waste prior to being transferred off- site for recycling together with external alteration to parts of external building and associated works 13/00384/FUL

Unit 1, 2 and 3 The Lombard Centre

The of use as a waste recycling centre 13/00434/FUL

The air quality assessments submitted with the above applications indicated that there is no likelihood of a breach of any air quality Objective as a result of these developments.

Note: Full details of all planning application can be viewed on-line via the council Website at: [Knowsley MBC](#)

6 Air Quality Planning Policies

Extract from Knowsley Metropolitan Borough Council Unitary Development Replacement Plan - June 2006

Knowsley Metropolitan Borough Council's Planning Policy ENV1⁴ (see below) is a policy which ensures that new developments will not be permitted where it would cause harm to **air**, land or water

Chapter 13 Environmental Protection and Nature Conservation Knowsley Metropolitan Borough Council Unitary Development Replacement Plan June 2006

POLICY ENV1

Development will not be permitted which is likely to cause significant harm to amenity as a result of impact on any of the following:

- a) Air quality;
- b) The quality of land and soil (due to contamination); or
- c) The quality of the water environment.

EXPLANATION ENV1

13.8

Policy ENV1 aims to ensure that new development, where it is not adequately controlled by other pollution control legislation, will not be permitted where it would cause harm to air, land or water quality.

13.9

Polluting industrial processes (and emissions to air, land and water, noise, heat, waste, energy and raw material usage) are controlled under the Environmental Protection Act 1990 and the Pollution Prevention and Control Regulations Act 1999. This legislation is implemented by the Council's Environmental Health and Consumer Protection officers and the Environment Agency.

13.10

In considering proposals for development it will be necessary to take into account the effect that any pollution which may result from the development may have on amenity of the surrounding area and also the effect on amenity of measures that may be needed to comply with other pollution control legislation. For example, pollution controls under other legislation may require the use of high chimney stacks or other pollution control measures to serve new development. These can in themselves have a significant visual impact and such measures therefore need to be identified at the original design stage so that the full effects of a proposed development can be considered at the outset.

IMPACT OF NEW DEVELOPMENT ON AIR QUALITY

13.11

Under the National Air Quality Strategy, the Council may adopt Air Quality Management Action Plans. These plans may be adopted on the declaration of Air Quality Management Areas identified by the Council in accordance with the Environment Act 1995. The Council is currently identifying priority areas in which developers will have to demonstrate that their proposals will not affect Air Quality Standards.

13.12

Air pollution will be a material consideration in any planning decision which may affect air quality (either within or outside Air Quality Management Areas). Separate policies in chapter 8 "Transport" require that development which would generate significant amounts of traffic within an Air Quality Management Area may require the submission of detailed transport assessments or Travel Plans.

Knowsley is at present developing the Local Development Framework (LDF) which sets out Knowsley's vision for spatial development within the Borough up to 2027. Within the Framework is the Core Strategy which will guide spatial planning and investment decisions made within this period and is critically important document for Knowsley.

Air Quality has already been highlighted in a number of areas within the Strategy including the following.

The Development Principles

The council will encourage new development that recognise environmental limits, protect and enhance environmental assets, enhance local character and promote quality of place by:

Mitigating potential impacts of traffic growth and road traffic on highway, air quality, noise and health.

Ensuring no negative impact upon flood risk, air quality, water quality, land quality, soil quality and noise or vibration levels.

Further areas within the policy aim to protect air quality are within accessibility and transport, climate change and resource minimisation and the protection of green spaces.

7 Local Transport Plans and Strategies

Local Transport Plan 3 2011 to 2026

The Third Local Transport Plan for Merseyside³ became active from 1st April 2011 and builds on the success of the previous Plans.

The plan sets out the implementation in the short term to 2015 and considers plans up to 2024 on how to improve transport and Air Quality in Merseyside.

The Third Local Transport Plan has six goals;

One - Help create the right conditions for sustainable economic growth by supporting the priorities of the Liverpool City Region, the Local Enterprise Partnership and the Local Strategic Partnerships.

Two - Provide and promote a clean, low emission transport system which is resilient to changes to climate and oil availability.

Three - Ensure the transport system promotes and enables improved health and wellbeing and road safety.

Four - Ensure equality of travel opportunity for all, through a transport system that allows people to connect easily with employment, education, healthcare, other essential services and leisure and recreational opportunities.

Five - Ensure the transport network supports the economic success of the city region by the efficient movement of people and goods.

Six - Maintain our assets to a high standard.

Table 7.1 DfT TEMPRO Modelling

Scenario	Year/Change	CO ₂	NO _x	PM ₁₀
	2008	1500Ktonnes	5,500tonnes	460tonnes
DO Minimum	Change to 2014	5%	10%	-3%
DO Minimum	Change to 2024	1%	-76%	-5%
Final Strategy	Change to 2014	3%	9%	-4%
Final Strategy	Change to 2024	0%	-77%	-6%
Difference DM/FS	Change to 2014	-1.4%	-1.2%	-1.1%
Difference DM/FS	Change to 2024	-1.2%	-1.0%	-0.9%

The modelling results show a small but notable improvement in emission levels between the do minimum and the final LTP strategy for all pollutants.

8 Climate Change Strategies

Knowsley's key strategic documents – the Sustainable Community Strategy and Corporate Plan, include commitments to act on climate change. Knowsley Council has also made a specific commitment to addressing climate change, signing the Nottingham Declaration on Climate Change in October 2007.

In October 2008, Knowsley Council published its first Climate Change Strategy which covered council carbon emissions from its own estate and actions within the community. The present Climate Change Strategy for the Knowsley Partnership aim:

By 2023 Knowsley will be a borough with low carbon emissions from its businesses, organisations, communities and homes, will have prepared for the effects of climate change and have in place a strong and thriving low carbon economy.

Information about Knowsley Climate Change Strategy and Carbon Reduction ⁴

[Climate and Carbon](#)

9 Implementation of Action Plans

Since the start of the Local Air Quality Management Review and Assessment process in 2000, Knowsley Metropolitan Borough Council has not identified any areas within the borough where Air Quality Objectives have been breached and subsequently an AQMA has been declared. Accordingly, the Council has not been required to produce an Action Plan.

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

This Progress Report provided the results of air quality monitoring carried out in Knowsley during 2013. The results from the automatic monitoring adjusted show the levels of nitrogen dioxide and particulate matter continue to meet national standards, as concentrations are within the stipulated limits. The nitrogen dioxide diffusion tube monitoring had now been discontinued due financial constraints and levelling off pollutant levels across Knowsley.

10.2 Conclusions relating to New Local Developments

There are currently three major commercial developments referred to in Section 5 of this report which have the potential to have an impact on local air quality. As part of the planning process, each of these applications included an air quality assessment as part of their respective Environmental Impact Assessments/Statements. In each case, the assessment indicated no likelihood of a breach of any Air Quality Objectives due to these developments.

10.3 Proposed Actions

The Council will try to continue with its air quality monitoring programme for the next 12 months however restrictions may be enforced due to financial constraints. Monitoring of any potential planning applications, traffic levels which may have implications on the Air Quality Objectives will continue.

Appendices

Appendix 1: QA: QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tubes ² used by Knowsley MBC were supplied and analysed by Gradko Environmental using a 20% TEA/water solution which are typically exposed for four week periods in accordance with the National NO₂ Network exposure calendar. A bias adjustment figure was obtained from the DEFRA web site [bias-adjustment](#)

Gradko Environmental's laboratory is accredited to NAMAS and UKAS BS EN ISO 9001. Results from the WASP scheme show good performance and the laboratory precision were also good.

QA/QC of Automatic Monitoring

Knowsley Metropolitan Borough Council operates one automatic monitoring site located in the grounds of Northwood House, Briery Hey Avenue, Kirkby. Quality control procedures as detailed in AEA's site operator's manual are followed. The analysers are calibrated once every two weeks using gases traceable to national standards. All data are scaled in line with two weekly calibration checks. The analysers also perform an internal overnight span check and are serviced every 6 months. Routine calibration visits are carried out by the Council. Other calibrations and services are carried out by Enviro Technology Services.

11 References

¹ DEFRA (2009) Local Air Quality Management, Technical Guidance LAQM. TG (09)
[AQM Technical Guidance Note](#)

²DEFRA (2008) Diffusion tubes for ambient NO₂ monitoring: Practical Guidance for Laboratories and Users.
[Diffusion Tube Guidance](#)

³ Merseyside Local transport Plan 3, 2011
[Transport Plan](#)

⁴ Climate and planning guidance
[Knowsley MBC](#)