	
Meeting of Cabinet Member for City Strategy and Air Quality	4 July 2012
Report of the Assistant Director – Housing and Community Safety	

Air Quality Update Report

Summary

1. The report provides an update on Local Air Quality Management (LAQM) in York and on progress with the Low Emission Strategy (LES). Various amendments to the existing Air Quality Management Area (AQMA) boundaries are proposed based on additional air quality monitoring undertaken throughout 2011. An update on air quality in the Leeman Road and Fulford Road AQMA's is also provided.

Background

2. The Local Air Quality Management process places a duty on all local authorities to periodically review and assess air quality, and to determine whether or not the air quality objectives are likely to be achieved.
3. Where exceedences of the objectives are considered likely, the local authority must declare Air Quality Management Areas (AQMAs) and prepare Air Quality Action Plans (AQAPs) setting out the measures it intends to put in place in pursuit of the objectives. Local authorities are not statutorily obliged to meet the objectives, but they must show that they are working towards them.
4. Previous reports produced by City of York Council in relation to LAQM in York are available for download from:
<http://www.jorair.co.uk/index.php?page=reports>

Update on Local Air Quality Management in York

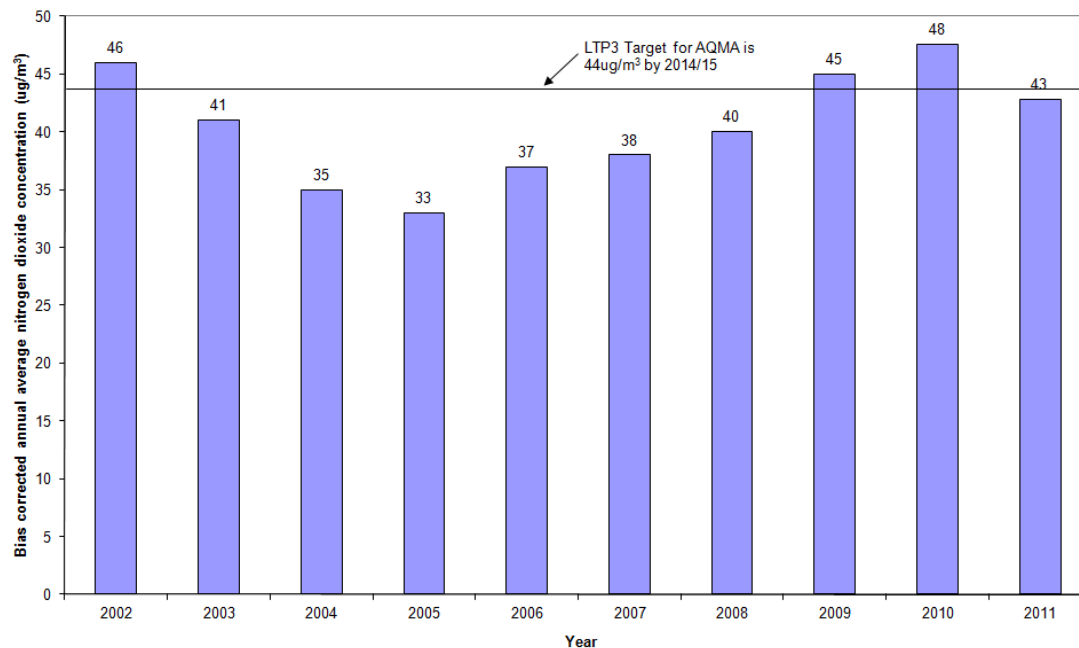
5. City of York Council submitted an Air Quality Update and Screening Report to DEFRA in April 2012. The report provided an update on the air quality monitoring data collected during 2011 and checked emission data for the city was up to date.
6. The assessment of additional monitoring data collected during 2011 has identified numerous relevant locations within the current AQMAs where annual average nitrogen dioxide concentrations remain above the $40\mu\text{g}/\text{m}^3$ objective level. This reflects the findings of previous Review and Assessment reports and indicates that the current AQMAs are still required.
7. Nitrogen dioxide concentrations at most continuous monitoring sites within the existing AQMAs showed no significant change compared with 2010 levels. The exceptions were the monitoring sites at Gillygate and Holgate Road, where annual average concentrations increased between 2010 and 2011. A breach of the short-term hourly nitrogen dioxide objective was observed at the Gillygate real-time monitoring site for the first time. Levels of nitrogen dioxide recorded by diffusion tubes along Gillygate also suggest that short term breaches may be occurring in this area.
8. Outside the AQMA, annual average nitrogen dioxide concentrations appear to have generally stabilised, with the exception of a few small areas. The cabinet member approved a new AQMA for nitrogen dioxide in the Leeman Road area (covering Salisbury Terrace and the surrounding roads) on 12 April 2012 and this was declared on 18 May.
9. Based on additional monitoring data collected during 2011, the following additions are proposed to the AQMA boundaries:
 - include the properties along Queen Street due to exceedences of the annual average nitrogen dioxide objective at property facades
 - include buildings along Rougier Street /George Hudson Street due to exceedences of the annual average nitrogen dioxide objective at property facades and recent evidence that some of these properties are domestic premises (when the first AQMA was declared there was no evidence of people living along this corridor)

- Include buildings along Rougier Street, where annual average concentrations of nitrogen dioxide in excess of $60\mu\text{g}/\text{m}^3$ have been recorded. This is indicative of potential breaches of the 1-hour nitrogen dioxide objective.
10. As this is the first time Gillygate has experienced breaches of the short term hourly average objective, it is proposed to continue monitoring in this location and review the situation as part of the 2013 Air Quality Progress Report. Should breaches of the hourly average continue, the existing AQMA order will be amended to reflect an exceedence of the 1 hour mean objective in this area.
 11. On 15 May 2012, letters explaining the reasons for the AQMA amendments were distributed to all residents and businesses in the vicinity of Queen Street, George Hudson Street and Rougier Street, who fell within the proposed boundary. Maps showing the proposed revisions to the AQMA boundaries are shown in Appendix 1. The existing AQMA legal orders will be amended as soon as practically possible following approval from DEFRA.
 12. Monitoring of other pollutants, including particulate matter (PM_{10}), has not indicated any issues with respect to the other air quality objectives. On this basis no further AQMAs other than those changes highlighted above are proposed at this time. A further, comprehensive update for other pollutants will be provided as part of City of York Council's next Air Quality Progress Report, due in April 2013.

Local Transport Plan – Air Quality Indicator

13. For the purpose of monitoring the impact of York's Local Transport Plan (LTP) a local air quality indicator has been established. This indicator measures the mean of 40 annual average results obtained from 40 diffusion tubes located within York's city centre AQMA. A graph showing the results for this indicator for the period 2002 to 2011 is shown below. As can be seen from the figure, nitrogen dioxide concentrations across the city were in general decline between 2002 and 2005. In more recent years, there is emerging evidence of a steady increase within the AQMA. However, between 2010 and 2011 an improvement within the AQMA was seen, as levels of nitrogen dioxide across the 40 sites used for the indicator fell from $48\mu\text{g}/\text{m}^3$ to $43\mu\text{g}/\text{m}^3$.

Figure 1: Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



Fulford Road Air Quality Action Plan Development

14. City of York Council's Air Quality Progress Report, submitted to DEFRA in April 2008, identified a number of air quality monitoring sites outside the existing city centre Air Quality Management Area (AQMA) where elevated concentrations of nitrogen dioxide had been monitored in recent years. One of these sites, Fulford Main Street, had experienced consistently elevated concentrations of nitrogen dioxide for a number of years, and thus a 'Detailed Assessment' of nitrogen dioxide concentrations in this area was required by DEFRA (available for download from: <http://www.jorair.co.uk/index.php?page=reports>).
15. A Detailed Assessment was carried out for the area of Fulford Main Street near the junction with Heslington Lane. Air quality monitoring work indicated that concentrations of nitrogen dioxide were above health based air quality objective values along a short stretch of Fulford Main Street. Based on this Detailed Assessment (and consultation with local residents via ward committee meetings and newsletters), a second Air Quality Management Area (AQMA) was declared in Fulford on 8 April 2010.
16. The Environmental Protection Unit (EPU) has been working in partnership with the Institute of Transport Studies (University of

Leeds) to develop options for the Fulford Air Quality Action Plan. This has involved building a detailed traffic and emissions model of the corridor.

17. It was EPU's original intention to produce an AQAP for Fulford by the end of 2011. However, further to comments and advice received from DEFRA, regarding the updating of the AQAP for our city centre AQMA, it is proposed to integrate the Action Plans for both the city centre and Fulford AQMAs (plus the new AQMA in the Leeman Road area).
18. Fulford will form a chapter of the overarching AQAP for the rest of the city and will contain Action Planning measures specific to the Fulford area. The revised AQAP will tie in closely with City of York Council's emerging Low Emission Strategy (LES).
19. The work carried out by the Institute of Transport Studies has indicated that diesel passenger cars and HGVs make the largest contribution to NO_x emissions over a typical weekday in the Fulford AQMA (~32% and ~31% respectively). Whilst buses were only a very small proportion (~2%) of the total vehicle kilometres over a typical weekday, they were predicted to contribute a disproportionate amount (~19%) to the total NO_x emitted across the network.
20. The results of the study have indicated that there is potential to reduce emissions and improve air quality in the village via a targeted package of management and control measures. The key conclusions and recommendations of the study were as follows:
 - An Air Quality Action Plan (AQAP) for Fulford should investigate the feasibility of operating electric and diesel-electric hybrid buses on the high frequency Fulford 'Designer Outlet P&R' service, which operates through the village. The impact of operating hybrid-electric vehicles from all Park and Ride sites in York will be investigated as part of the low emission zone study.
 - An AQAP for Fulford should undertake cost benefit analysis of upgrading diesel buses operating within the Fulford AQMA to bring them in line with a minimum EURO standard (requiring operators of HGVs to also use minimum emission standard vehicles was also shown to have significant emissions benefits). Cost benefit analysis of implementing a Low Emission Zone is proposed as part of the Low Emission Zone study.

- An AQAP for Fulford should deliver suite of sustainable travel infrastructure and schemes to affect a 5% reduction (minimum) in general traffic demand through the village. Whilst delivering and maintaining reductions in general traffic demand would be challenging (suppressed travel demand effects) the potential environmental benefits were shown to be significant.
- Further, significant reductions in emissions could be achieved by reducing number of private cars (specifically those fuelled by diesel) travelling through the Fulford AQMA.
- Restricting HGV movements in the AM and PM peaks in Fulford (thereby relinquishing road space to other vehicle types in the congested commuting periods) was not significant in terms of emission reduction. As the HGV journeys in the AM and PM peaks were redistributed to the Inter-Peak (IP) period, the benefits of freeing up road space during congested periods were largely offset by the disbenefits in the IP.

Update on Low Emission Strategy

Low Emission Strategy development

21. The cabinet approved the draft Low Emission Strategy for public consultation on 3 April 2012. A public consultation exercise ran from 23 April to 18 May 2012. The responses will be considered and reported to Cabinet for final approval in September.
22. Once the strategy approach has been approved some of the longer term strategic LES measures will need to be worked up in more detail and included as specific measures in a revised air quality action plan (AQAP3) for the city. Members of the public will have a further opportunity to comment on delivery of individual measures at this stage. The revised AQAP will take into account matters arising from the City Centre Movement and Accessibility Framework and the outcomes of the LEZ bus corridor feasibility study outlined in this report. AQAP3 will also contain measures for air quality improvement in Fulford and Salisbury Terrace. It is anticipated that a revised AQAP will be available for consultation in late 2012 / early 2013.
23. Delivery of some of the shorter term measures in the LES will commence during 2012, prior to publication of the revised AQAP. Some key areas we hope to progress during 2012 are:

- Delivery of public electric vehicle recharging infrastructure in CYC car parks.
- Delivery of some privately operated electric vehicle recharging points in hotel and leisure facilities through a partnership with the charity Zero Carbon World
- Introduction of Eco-Stars fleet recognition scheme (as outlined in this report)
- Development of a LES supplementary planning document (SPD) to ensure new developments incorporate low emission strategy principles and mitigate their emissions. This will include consideration of the potential for developer contributions to fund wider low emission infrastructure in the city such as alternatively fuelled buses and refuse trucks.
- Provision of alternatively fuelled and low emission vehicles in city centre car clubs and use of these vehicles by CYC staff.
- Promotion of alternatively fuelled vehicles and development of incentives for their use
- A review of the CYC fleet vehicles by the Energy Saving Trust

Low Emissions Officer

24. Our new low emission officer started in February 2012. The low emission officer is tasked with helping to promote and enable the adoption of low emission vehicles and alternative fuels in the city, and will support the delivery of York's emerging Low Emission Strategy (LES) and the I-travel York programme.
25. Some of the main tasks that have been carried out to date include:
- Reviewing existing recharging infrastructure in UK to inform best practice and policy
 - Undertaking a comprehensive review of electric vehicles currently available in the UK

- Identifying suitable locations for electric vehicle recharge points in council car parks and receiving competitive quotes for charging post provision
- Completion of a successful bid for £15,000 funding under the Energy Saving Trust's 'Plugged-in Fleet' initiative for analysis of electric vehicles suitability within the CYC fleet.
- Arranging trials of several zero emission vehicles including cars, vans and a road sweeper
- Supporting and informing the I-Travel York marketing campaign
- Partnering with charity 'Zero Carbon World' to promote free recharging points to hotel and leisure facilities in York.
- Providing advice to CYC licensing unit on emission standards for taxis
- GeniUS Project – advising on sustainability projects and the feasibility of low emission city bus, cycle counters and energy generating pavements.
- Currently investigating electric city car club
- Researching CNG refuelling infrastructure for use by freight and buses, hybrid buses, electric buses

Low Emission Zone (LEZ) Feasibility Study

26. The Low Emission Zone (LEZ) feasibility study is just one of the measures within the Low Emission Strategy to further reduce vehicle emissions in the city. The objective of an LEZ is to improve air quality by ensuring only the cleanest vehicles can be used within a defined area. Restrictions are typically applied according to vehicle type and emissions classification.
27. The LEZ study is investigating the potential emission reduction and air quality improvement across York's AQMAs, achievable through the creation of a city centre LEZ for buses and coaches. Whilst the emphasis will be on achievable reductions in NO_x emissions, the study will also investigate the likely impact on particulate emissions

(PM) and concentrations and quantify likely carbon dioxide (CO₂) savings.

28. The proposed low emission zone will include a particular examination of the two bridge priority routes as highlighted in City of York Council's City Centre Movement and Accessibility Framework document (<http://democracy.york.gov.uk/ieListDocuments.aspx?CIId=128&MIId=6497&Ver=4>).
29. The LEZ project will investigate the potential air quality impact of a number of different bus and coach LEZ entry criteria (i.e. the emission standards required to enter the LEZ) and consider the operational and financial implications of such restrictions on operators.
30. Questionnaires have been circulated to all bus and coach operators who operate services within the city to gather information about fleet replacement programmes and gather views and experiences of using low emission technologies and alternative fuels within operators' UK fleets. Responses to the questionnaires are currently being collated and will be reported alongside the traffic and emissions modelling work towards the end of 2012.
31. In addition to buses and coaches, the LEZ study will also quantify the emissions reduction possible by including HGVs in restricted vehicle categories¹. The emissions modelling will quantify the emissions reduction potential in the AQMA, areas of technical, breach and proposed low emission corridor, by further restricting access to Euro III, IV and V heavy goods vehicles.
32. A direct linkage between a fleet recognition scheme and low emission zone enforcement offers a unique opportunity for CYC to pioneer a scheme that could be used as a model elsewhere in the UK. The study will also explore the concept of limiting vehicle access to those vehicles displaying a specified fleet recognition symbol. The ECO-Stars fleet recognition scheme is described later in this report.

¹In the first instance, the emissions reduction potential of including HGVs in the LEZ will be examined. Should this be found to offer significant emissions reduction benefits, over and above that possible by only including buses and coaches, the on-street air quality impact will need to be examined at a later date. This will be subject to additional funding.

Freight Transhipment Feasibility study

33. A freight transhipment centre (or *urban consolidation centre*) aims to reduce the number of large delivery vehicles entering the city by providing a facility, on the edge of the city (but close to the strategic road network) where goods can be consolidated for onwards dispatch in a smaller electric, or low emission vehicles. The feasibility of an urban consolidation centre is currently being examined for the city.
34. City of York Council has appointed JMP as consultants to lead on the study looking at an outline business case for a freight transhipment centre and assessing the potential for other improvements to freight transport in the city, with a particular focus on the city centre.

Eco-Stars Fleet Recognition Scheme

35. The ECO (Efficient and Cleaner Operations) Stars Fleet Recognition Scheme is a free, voluntary scheme designed to provide recognition, guidance and advice to operators of goods vehicles, buses and coaches. Information about the current scheme can be found at: <http://www.care4air.org/ecostars/>.
36. In 2011, City of York Council was awarded funding through DEFRA's Air Quality Grant Scheme to introduce an ECO-Stars Fleet Recognition scheme into York to help to reduce vehicle emissions, encourage the wider uptake of alternatively fuelled vehicles and raise public awareness about low emission vehicles. It was proposed to initially aim the scheme at buses, coaches, Heavy Goods Vehicles (HGVs) and the CYC fleet, and later to expand the scheme to include taxis and other large fleets.
37. The vehicle and fleet assessment criteria that lead to the ECO-Stars rating are an important part of the way the scheme operates. A workshop to progress a review of the ECO-Stars criteria was held on 18 May 2012. A new and updated set of criteria with the following key changes have been proposed:
 - An upper limit to scheme was proposed as **5* 'Gold'**, which only can be used for Euro 6 vehicles with alternative fuels or hybridisation.
 - Recognition for a 5* Zero Emission Vehicle with a relevant label (for electric/hydrogen).

- Euro IV and V can get max of 4 stars, unless they use alternative fuels as well
 - Operators of Euro II vehicles will be allowed to remain in the scheme, with recognition fuel efficiency measures and operations, although individual vehicles will not be permitted to display a star rating on their vehicles.
 - Existing members of the scheme will be assigned grandfather rights for a set duration. This duration will be informed by a review of current membership (will look at fleet turnover rates and age of vehicles operated by the current members to establish the degree of 'shock' of losing protected rights).
38. Once the new criteria have been formally adopted by all local authorities and operators concerned, a revised project timetable for the York scheme will be drawn up. It is anticipated that the existing scheme providers (Transport & Travel Research Ltd) will be commissioned to manage the York scheme for a 2 year period utilising DEFRA grant funding. A scheme launch is anticipated before the end of 2012.

Options

39. The report is provided for information and the Cabinet Member is asked to note the contents of the report.

Analysis

40. The tasks outlined in this report will allow the council to progress development of low emission measures both locally and regionally, and will ensure that the council carries out its legal duties under the Environment Act 1995.

Council Priorities

41. The development of the low emission strategy and air quality work contributes to the council priorities in the following ways:
- Create jobs and grow the economy – improving transport links to the rest of the UK via the installation of electric charging points and alternative fuels infrastructure, encouraging investment in low emission technology and creating jobs in green industries

- Get York moving - improving local bus services and city centre circulation and campaigning to encourage less reliance on the car via the Low Emission Zone bus corridor feasibility study and the low emission strategy
- Build strong communities – talking with and listening to people about air quality, public health and the environment
- Protect vulnerable people – ensuring the health of people, especially the most vulnerable, by reducing pollution
- Protect the environment – cutting our carbon emissions and improving air quality

Implications

42. The various implications of this report are summarised below:

(a) Financial

- The AQSG funding for the LEZ Feasibility Study is being supplemented with an additional £11,713 from the Statutory Bus Partnership Development fund.

(b) Human Resources (HR)

- There are no HR implications.

(c) Equalities

- Vulnerable people with respiratory and other illnesses are more likely to be affected by poor air quality.

(d) Legal

- The council has a statutory duty to periodically review and assess local air quality against national air quality objectives and report its findings to DEFRA. There is a requirement to submit regular AQAP progress reports to DEFRA demonstrating that it has a continued commitment to improving air quality in the city. Under the provisions of the Freedom of Information Act 2000 air quality data must be made freely available to members of the public upon request.

(e) Crime and Disorder

- There are no crime and disorder implications

(f) Information Technology (IT)

- There are no IT implications

(g) Property

- There are no property implications.

(h) Other State here any other known implications i.e. Highways, Planning etc

- There may be Highways implications in implementing a Low Emission Zone within the city centre. This will be explored, consulted upon and fully reported to members, should the results of the feasibility study suggest that such as scheme is cost-effective for the city.

Risk Management

43. In compliance with the council’s risk management strategy. There are no major risks associated with the recommendations of this report.

Recommendations

44. The report is provided for information and the cabinet member is asked to note and endorse the contents. LAQM is a statutory undertaking that contributes towards the corporate priorities on protecting the environment and protecting vulnerable people.

Contact Details

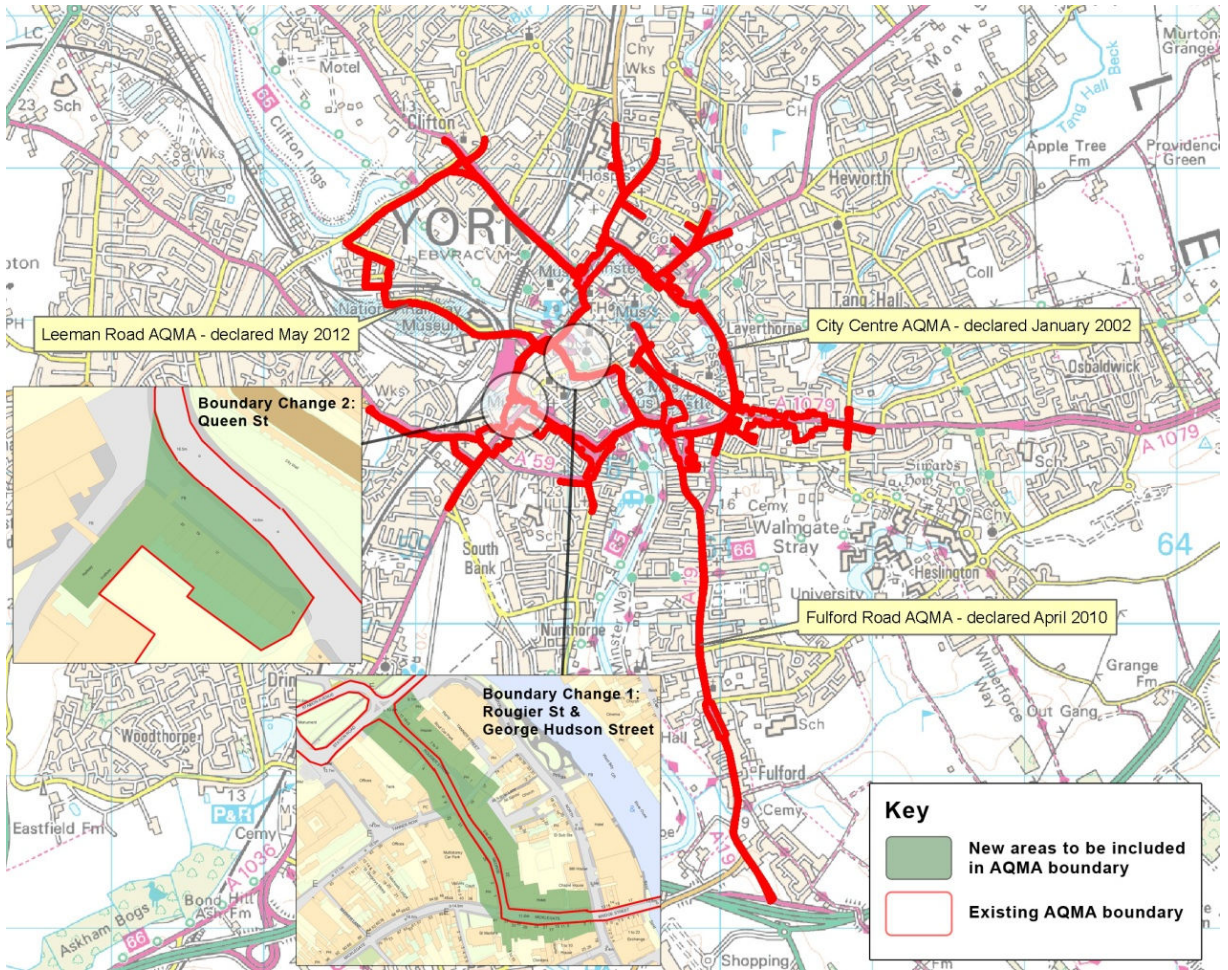
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	Report Approved	√	Date	29/06/12
	Sally Burns Director – Communities and Neighbourhood Services			
Specialist Implications Officer(s)				
Wards Affected: <i>List wards or tick box to indicate all</i>				All <input checked="" type="checkbox"/>
				All wards
For further information please contact the author of the report				

Background Papers:

- 1) An Air Quality Management Area (AQMA) in the Leeman Road Area (12 April 2012)

Appendix 1: Map showing proposed revisions to the AQMA boundaries.



Appendix 2: Map showing extent of AQMA in Leeman Road Area

