

Air Quality Update Report

Transport, Infrastructure and Environment Committee

24 November 2009

1 Purpose of report

- 1.1 To provide an interim progress report on actions within the Air Quality Action Plan 2008-2010, approved by Committee in September 2008.
- 1.2 To provide information on air quality initiatives in place in other UK and European cities.
- 1.3 To advise Committee of the findings of the Updating and Screening Assessment Report 2009.

2 Summary

- 2.1 The report updates Committee on progress regarding the investigation and development of voluntary emission reduction partnerships with the bus and freight sectors operating in the City. Agreement has been reached in principle with bus companies for such a partnership and a draft agreement has been developed for discussion.
- 2.2 The establishment of a similar partnership in the freight sector has been more challenging. Work is ongoing with a range of partner agencies to establish ways of working with the sector to gather information on freight activity in the city and establish options to improve air quality from this source.
- 2.3 Edinburgh has three Air Quality Management Areas (AQMAs) resulting from failure to meet the levels for nitrogen dioxide NO₂ levels. The current EU compliance target date for this pollutant is 2010; however the UK Government has stated an intention to apply for a 5 year extension to this deadline. In line with this timetable an update study is taking place to review the Low Emission Strategy Study conducted in 2007 to ensure an up to date and valid base for future planning.
- 2.4 Potential mandatory options for bus and freight vehicles and their implications are outlined; these may need to be considered should voluntary agreements be ineffective in achieving air quality targets.

- 2.5 A review of air quality initiatives from other UK and European cities is included in the report. In keeping with findings in Edinburgh, the main source of local pollutants is road traffic, and the pollutants of concern are particles (PM₁₀) and/or nitrogen dioxide (NO₂). Consequently, actions are focussed on reducing emission from road traffic. This work is included with this report and referred to in background papers, with a summary table in Appendix 2.
- 2.6 The report provides updates on a range of other actions that were included in the Air Quality Action Plan 2008 – 2010.
- 2.7 The next report that the Council is required to produce as part of the local air quality management (LAQM) process is an Updating and Screening Assessment report. All LAQM pollutants are considered and the objectives for most are met. Levels of nitrogen dioxide (NO₂) continue to exceed the objectives at sites within the existing Air Quality Management Areas. Particles exceed the Scottish objective for Particles (PM₁₀) at a number of sites. PM₁₀ will be further explored in the detailed assessment work currently underway. Both the Scottish Government and SEPA accept the conclusions of Edinburgh's 2009 Updating and Screening Assessment Report.

3 Background

3.1 Air Quality Action Plan

The Environment Act 1995 places a duty on local authorities to regularly review and assess air quality in their areas. A number of pollutants need to be assessed against health-based objectives prescribed in regulations. If targets are not met local authorities must declare air quality management areas (AQMAs) and produce an action plan detailing initiatives for meeting the targets.

- 3.2 Edinburgh currently has three Air Quality Management Areas (AQMAs) namely the City Centre, St Johns Road and Great Junction Street. Each has resulted from failure to meet nitrogen dioxide NO₂ targets primarily due to emissions from road traffic. Further information on monitoring data is contained in the Air Quality Progress Report 2008, referred to in the background papers.

- 3.3 The next report required in the review and assessment programme is an Updating and Screening Assessment, included as a background paper to this report. This work has now been completed and indications are that there has been improvement at some sites, notably St John's Road, but the EU limit value continues to be exceeded there and at most monitoring sites in the Air Quality Management Areas. However, there are currently a number of temporary alterations and disruptions to the road network in the city, which means it is not possible to make any reliable assumptions or to draw definitive conclusions regarding trends based on data gathered.

4 Main Report

- 4.1 The Air Quality Action Plan 2008 – 2010 sets out a range of actions to improve air quality within the city and meet prescribed targets. This report provides an interim up-date on the key priority actions within the plan as well as the other actions in the Plan.
- 4.2 The current action plan was informed by the study undertaken in 2007 on behalf of the Council by Transport and Travel Research Ltd, to consider various low emission strategy options for Edinburgh. From this work key actions were identified as critical to improving air quality in the city;
- to extend the Bus Emission Partnership to all bus operators in the city and agree minimum requirements
 - establish a baseline of bus fleet composition from major bus operators in relation to NO₂ hotspots
 - establish a Voluntary Freight Partnership in the City.

Bus Partnership

- 4.3 Meetings have been held with bus companies operating in the Edinburgh area to raise awareness of air quality issues and explore the option of a Voluntary Bus Partnership Agreement to reduce emissions from bus fleets.
- 4.4 Following these discussions in principle support for a voluntary agreement has been achieved and a draft agreement covering the period 2009 - 2014 is currently being developed for discussion with bus operators. If consensus can be reached then a monitoring group of partners will be established to assess progress.
- 4.5 Baseline information on bus fleets has been obtained from the majority of bus operators and this includes details on vehicles used in the (AQMA) in the city. This information is currently being analysed and will be used to help determine the most appropriate strategy to accelerate improvements in emissions in these areas. Information on bus operators fleet replacement policies / programmes are also being sought over the next three years.
- 4.6 Specific progress has been made with Lothian Buses, the largest operator in the city, who have replaced 25 Euro III buses operating on Service 26, which runs through both the City Centre and St John's Road AQMA, with significantly lower emission Euro V buses. Other Services operating along the St John's Road corridor have been upgraded from Euro II to Euro III including the X48 service which serves the Ingliston Park and Ride facility. Lothian Buses also plan to have the air link service operating with Euro V buses by early 2010.
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① Euro Standards relate to EU emission standards for new vehicles. Euro II was introduced 1992. Progressively higher standards for emissions have been introduced in the intervening period, with Euro V coming into effect from October 2009.

- 4.7 In addition to this use of targeted upgraded fleet, Lothian Buses are also about to embark on a trial which involves fitting a device to a Euro II bus which reduces emissions of both NO₂ and PM₁₀ to a Euro V equivalent. This trial is being supported by the manufacturer of the device. Lothian Buses have agreed to share the results of the trial with the Council.
- 4.8 The upgrade and/or replacement of existing bus fleet, particularly in AQMA areas, are a key factor in meeting air quality targets in the city. The voluntary agreement would seek to achieve further developments in line with Lothian Buses actions. However while technologies are available to upgrade higher emission vehicles, the main issue in achieving either upgrade or replacement is the investment cost. Bus companies advise that they are unable to meet the scale of funding required. This is a major factor in determining the level of current voluntary agreements as over ambitious targets could have potential impacts on bus services e.g. if higher emission buses were taken out of use and not replaced.
- 4.9 Discussion on these issues continues and work is being carried out to explore possible funding options e.g. European Union, UK and Scottish Government, Energy Savings Trust and relevant commercial organisations.

Freight Partnerships

- 4.10 The freight industry is a much more diverse grouping than the local bus operators, and it has been difficult to identify the key players in an Edinburgh context. Work is ongoing to identify ways to establish information on freight fleet operating in the city, this will then inform how best to impact on air quality targets.
- 4.11 Contact has been made with the Road Haulage Association and the Freight Transport Association. These are the two main trade groups and have between them around 15,000 members, mainly the larger operators. While neither holds individual fleet profile information they have agreed to assist the Council in communication with their membership, requesting information relevant to Edinburgh. While not all operators in the city are members of these associations this action would assist access to information on fleet profiles and help increase awareness of air quality issues.
- 4.12 Close working links are also being established with the South East Scotland Transport Partnership (SEStran) who have faced similar challenges in working with this diverse sector. SEStran has established a Freight Quality Partnership, with the aim of helping the freight industry, including road haulage in the South East of Scotland function as efficiently as possible. In tandem with this, SEStran are initiating a Freight Routing Strategy which is expected to reduce the number of HGVs accessing congested routes. This work is at an early stage and the Council is working closely with SEStran to explore how these initiatives can include measures that will benefit local air quality in Edinburgh.

Transport Strategy

- 4.13 Ongoing improvement in air quality requires close linkages with transport strategy for the city. A 20 year Transport Vision for the City is currently being developed and will include proposed initiatives designed to improve all aspects of transport in the city including improvements in local air quality. Linked to this work the next Local Transport Strategy will commence in 2010 with freight and air quality improvements through reduced emissions included as key elements.

Low Emission Strategy Study Update

- 4.14 As stated in paragraph 4.2 the key actions in the 2008-2010 Air Quality Action Plan were based on a Low Emission Strategy Study carried out in 2007. Funding has been secured from the Scottish Government to undertake a review of this work. The update study will review the assumptions which form the basis of the current action plan and ensure that we have a valid base to inform the Air Quality Action Plan for 2010-2015.

Air Quality Targets/Infraction Fines

- 4.15 Edinburgh currently has 3 AQMAs as a result of NO₂ levels. The current target timetable to meet NO₂ requirements is 2010 which Edinburgh, in line with nearly all major EU member states, including the UK as a whole, are projected to miss. In recognition of this widespread position, EU directive 2008/50/EC allows member states to apply for an extension to the deadline to 2015, subject to having plans in place to meet the revised deadline.
- 4.16 The UK Government, in conjunction with the Devolved Administrations, is considering an application for an extension to be submitted in September 2010 together with a plan on how the UK will meet the limit value by 2015.
- 4.17 It is anticipated that the application for an extension on this target will be agreed, this will require that we meet the prescribed targets by 2015, failure to do so might lead to fines being imposed on the Council.
- 4.18 Currently if an EU Member State fails to meet an air quality limit value then they may be liable to Commission instigated infraction proceedings. Earlier this year a letter of formal notice for exceeding the limit value of particulates (PM10) was issued regarding failures in London and Glasgow. This is the first step in infraction proceedings which could lead to fines being imposed on the UK Government, similar action could be taken for failure to comply with the limit value for NO₂. Infraction fines are imposed on the member state. At present there is no clarity on how or if the UK Government or the devolved administrations would pass any such fines onto failing Local Authorities. However, this has been the pattern with EU fines in other areas e.g. waste.
- 4.19 If an extension to the time deadline for NO₂ is granted then no action will be taken prior to 2015.

Mandatory Options

- 4.20 To prepare for the target deadline the outcomes of current voluntary agreements and actions will require to be closely monitored. Should the necessary improvements not be realised then mandatory options will have to be considered.
- 4.21 Under the Public Service Vehicles (Traffic Regulation Conditions) Amendment (Scotland) Regulations 2008, the Scottish Traffic Commissioner has a power to specify emission standards for buses, for the purpose of improving air quality, through the attachment of Traffic Regulation Conditions to local bus service registrations. The Council would be required to make a case to the Scottish Traffic Commissioner for the attachment of such a Traffic Regulation Condition.
- 4.22 The Council would be required to make a case to the Traffic Commissioner who can then attach conditions to the Bus Operators Licence. Dependant on the emission standards specified and the timescale for compliance, costs to comply with the scheme proposed in Low Emissions Strategy Feasibility Study Report 2007 ranged from £6.83 million to £11.72 million. This level of financial impact on bus companies could have a range of potential consequences including reduction in service frequency; fare increases; withdrawal of services; demand for increased subsidy from the Council and reduction in dividend to the Council from Lothian Buses.
- 4.23 Any move to a mandatory scheme for bus emissions would therefore require consideration regarding lead in time and also any possible means of financial support for bus companies to meet vehicle replacement and /or retrofitting costs.
- 4.24 The same principles apply to a mandatory scheme for road freight but any such scheme would need to be set up using a Traffic Regulation Order. Costs to the Council to establish and enforce mandatory schemes for either or both bus and freight sectors will be dependant on the method adopted to ensure compliance, but other than a manual enforcement scheme, costs in the first year typically range from £2 million to £3.8 million.

Comparison with Europe on AQ initiatives

- 4.25 A range of schemes have been developed by local authorities across Europe to directly reduce local traffic pollution. The most common method is to influence the emission standards of vehicles, such as through the implementation of traffic restriction mechanisms, like Low Emission Zones. From existing examples in European cities, the main vehicle sector targeted in schemes with enforceable restrictions are HGVs - and bus fleets in particular - due to their cost-effectiveness, compared with schemes that restrict other vehicle types. In such schemes, a vehicle can only enter a section of a city road network if the engine meets the correct Euro emission standard.
- 4.26 Air quality improvement initiatives, such as Low Emission Zones, have been implemented in a growing number of European cities since the introduction of European Air Quality legislation in 1996. Currently in Europe there are over 70 cities operating a Low Emission Zone. Other initiatives undertaken include

improved bus fleet, park and ride schemes, increased public transport investment, green fleet vehicles for councils, differential car parking charges, variable speed limits, cycle initiatives, HGV routes, entry time restrictions, plus many other schemes.

- 4.27 It is clear that Edinburgh is experiencing very similar air quality issues to many other European and UK cities. A wide variety of air quality improvement initiatives are currently being used by city authorities, throughout Europe, a range of which are summarised in Appendix 2.

Update on Other Actions

- 4.28 The 2008-2010 Air Quality Action Plan includes a number of other measures that are considered to have a beneficial effect on air quality. This Plan was submitted to the Scottish Government as part of the Local Air Quality Management process. Local Authorities are required to report to them on progress made in implementing their Action Plans. An update was recently submitted to them and the details are included in Appendix 1a.

Updating and Screening Assessment 2009

- 4.29 The Updating and Screening Assessment Report fulfils part of Edinburgh's obligations in terms of the Local Air Quality Management process, as set out in Part IV of the Environment Act 1995 and the National Air Quality Strategy. Local Authorities are required to regularly review and assess air quality objectives for local air quality pollutants and determine whether or not they are likely to be met. These pollutants are benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, particles (PM₁₀), sulphur dioxide. This report is included as a background paper and has been submitted to the Scottish Government and SEPA as required by the legislation. Both have accepted the conclusions reached in the report and their letters confirming this are included as Appendix 1a and Appendix 1b respectively.
- 4.30 Pollutants of concern for Edinburgh remain nitrogen dioxide and particles (PM₁₀). The other pollutants listed above are all below their respective objectives. The report follows a template set out by Government. Details of monitoring data is given and compared with objectives. It remains the case that the nitrogen dioxide objective is exceeded at the majority of monitoring locations in the Air Quality Management Areas. Particles (PM₁₀) exceed the Scottish annual objective at a number of sites. PM₁₀ will be further explored in the Detailed Assessment work currently underway.
- 4.31 Consideration is given to a range of sources of local air quality pollutants and whether there have been any significant changes since the last updating and screening exercise.
- 4.32 The report concludes that a detailed assessment is required for nitrogen dioxide at a number of sites outwith the current AQMAs.

5 Conclusions

- 5.1 In line with most EU members including the UK current predictions are that Edinburgh we will not meet the 2010 deadline for compliance with the NO₂ EU limit value. The UK Government has advised it will seek an extension to this deadline.
- 5.2 Discussions ongoing with local bus companies in an effort to reach voluntary agreement. Efforts continue to find effective ways to engage with freight operators. Monitoring of air quality will continue on an ongoing basis and our low emission study is in process of being reviewed. The Air Quality Action Plan will be updated in 2010 and the need for further mandatory mechanisms to improve air quality will be kept under review and possible funding options explored in line with the 2015 target.

6 Financial Implications

- 6.1 There are no direct financial implications from this report. Should mandatory low emissions zone options be required financial implications for the Council would require to be considered and would be subject to further Committee reports.

7 Environmental Impact

- 7.1 The report updates on progress with the Air Quality Action Plan which aims to improve air quality in the City.

8 Recommendations

- 8.1 It is recommended that the Committee:
- a) Notes this report



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4/11/09

Appendices	Appendix 1a Letter from Scottish Government Appendix 1b letter from SEPA Appendix 2 Comparison with other Cities Appendix 3 Air Quality Measures
Contact/tel/Email	Tom Stirling, Environmental Protection Manager 0131 469 5691 tom.stirling@edinburgh.gov.uk
Wards affected	All

Single Outcome Agreement Outcome 12 – We value and enjoy our built and natural environment and protect it and enhance it for future generations.

Background Papers Air Quality Progress Report 2008
Low Emissions Strategy Feasibility Study Report (TTR 2007)
Edinburgh Air Quality Action Plan 2008-10
Comparison with other UK & European Cities Report
Updating and Screening Report 2009