Leicester
City Council

WARDS AFFECTED
Abbey

FORWARD TIMETABLE OF CONSULTATION AND MEETINGS:

OVERVIEW & SCRUTINY MANAGEMENT BOARD	**15th January 2008**
CABINET	**21st January 2008**

Developments in Leicester's Air Quality Management and Actions

Report of the Corporate Director, Regeneration and Culture

1. PURPOSE OF REPORT

1.1 This report updates Members on progress with Local Air Quality Management and advises of the need to extend the statutory Leicester Air Quality Management Area, 2000, in the Abbey Lane corridor.

2. SUMMARY

2.1 Under Part IV of the Environment Act 1995, local Councils must periodically assess their air quality: Where statutory Objectives are not met, an Air Quality Management Area must be designated and a plan of action to improve air quality put in place.

2.2 Since air quality is a key priority for transport planning, Leicester integrated its Air Quality Action Plan with the Central Leicestershire Local Transport Plan 2006-11. Targets were set for air quality levels at the end of the implementation period of the plan. The Department for Transport awarded the plan 'Excellent' status for air quality and overall.

2.3 However, for several years, measured levels of pollution have exceeded statutory limits in residential areas fronting Abbey Lane, which are outside the existing Air Quality Management Area. In this case, there is a statutory duty to include the affected zone within the Air Quality Management Area.

3. RECOMMENDATIONS

3.1 Overview and Scrutiny Management Board:

OSMB are invited to note the report and to comment on it.

3.2 Cabinet

a) That progress to date is noted.

b) That the Town Clerk make an Order extending the existing Air Quality Management Area to include that part of the Abbey Lane frontage shown on the map appended to this report. (*Figure 3*).

c) That the appropriate consultations are carried out on item (b).

d) That the Corporate Director of Regeneration and Culture reviews the boundaries of the Leicester Air Quality Management Area as a whole during 2008, to establish whether other revisions are required.

e) That the Corporate Director bring a further report to Cabinet summarising the wider position and future options and initiatives with respect to Leicester's air quality.

f) That the Corporate Director investigate and implement integration of Local Air Quality Management into the Council's Climate Change Programme to ensure that synergies and initiatives are properly managed and exploited.

4. REPORT

Air Quality Action Planning

4.1 The Environment Act 1995 requires Leicester City Council to assess its air quality from time to time and, where statutory Objectives are not being met, to publish an Air Quality Action Plan. In 2006, it was decided to integrate this action plan with the Central Leicestershire Local Transport Plan 2006-11, as the legislation allows where traffic pollution is the cardinal issue. The Action Plan currently constitutes Annex 11 of the Local Transport Plan.

4.2 After detailed modelling of the impacts of the proposed transport package up to the end of the decade, air quality targets were set for the end of the Local Transport Plan period. As expected for a major urban area in the UK, these targets fell short of the statutory air quality Objectives in some heavily trafficked areas.

4.3 Leicester isn't different in this respect from other UK cities. *Figure 1* is an image from space which shows levels of nitrogen dioxide around major centres of population. While not as polluted as the big conurbations, Leicester can be clearly picked out.

4.4 The targets which we set clearly met Department for Transport criteria, namely that they should be both 'realistic and challenging':- DfT appraised the Local Transport Plan and awarded it 'Excellent' status: This was both for the quality of work done in assessing and predicting air quality, and overall for transport planning. This designation attracts reward funding on the funding allocation made to the City Council for Transport.

4.5 This success was in large measure attributable to the monitoring and modelling capability available to the Council, which has enabled a detailed picture to be built up of current and predicted air quality in the City. This in turn allows identification and testing of effective policy options in relation to air quality, which can be written into the Air Quality Action Plan.

4.6 Relevant measures identified in the Local Transport Plan include –

- Improvements to public transport, e. g. Park-and-Ride schemes, Quality Bus Corridors, improved facilities and improved buses;

- Promotion of alternative transport modes, including walking and cycling;

- Travel planning for the City Council, schools and businesses, in order to minimise fuel use.

- Management measures, e. g. junction improvements, improved signing and systems upgrades;

4.7 For the longer-term future, Leicester is part of a regional Transport Innovation Fund consortium which is evaluating more radical measures.

4.8 In addition, the Action Plan has indentified a range of potential 'non-infrastructure' measures, including:

- Campaigns for voluntary and statutory control of vehicle emissions: As a result, this measure is being re-evaluated with a view to re-establishing programmes carried out in 2003/4;

- Evaluation of new vehicle technologies for the Council fleet and other users such as taxis;

- Measures to develop, support and promote supply chains for new automotive technologies and fuels;

- Campaigns of education and training to influence driver behaviour;

- Extension of appropriate home-working using IT, and more flexible working hours.

4.9 The Plan can evolve, as more radical interventions are explored and developed into realistic options for the Council and its partners.

Air Quality Assessment – Recent Findings

4.10 The next step following this work was the 2006/7 round of statutory review and assessment of air quality, which has shown that –

- It is necessary to review the work done in 2000, when the boundaries of the existing Air Quality Management Area were first drawn up. (*Figure 2*).

- In order to refine and re-focus policy, we need to establish where the Area has shrunk, stayed the same or possibly grown larger, and re-draw its boundaries as necessary.

- There is a specific issue affecting the west side of the Abbey Lane corridor, where the affected area has been shown to be wider than was predicted in 2000.

4.11 This last point is covered in more detail in section "Abbey Lane – Findings" (4.16-4.22).

Links with Climate Change

4.12 Major progress has been made in rolling out Leicester's Climate Change strategy. At the same time there are considerable overlaps between this and air quality. Measures can be identified which benefit both Air Quality and Climate, for example which reduce:

- Vehicle-miles travelled; or
- Carbon-based fuel consumed per vehicle-mile.

4.13 As well as being a goal of the Climate Change Strategy, these are key aims of the integrated Local Transport Plan / Air Quality Action Plan. Emissions from traffic are the key air quality issue in Leicester, contributing about 95% of measured nitrogen dioxide. Transport also accounts for over 14% of the City's carbon footprint and this sector, unlike others, is still growing. *(De Montfort University estimate of Leicester transport emissions in 2004).*

4.14 Therefore, both Air Quality Action Planning and Climate Change policy are key priorities for Leicester City Council and the Leicester Partnership, and policy integration will yield significant benefits:

- 'Win-win' solutions will give policy added weight and direction;
- Resources will be targeted effectively and potential policy conflicts avoided:
- There will be added clarity in the minds of the public, helping acceptance and avoiding potential confusion from a plethora of overlapping messages.

4.15 The ongoing planning process should be include rigorous evaluation of policy options for their impacts on air quality and well as climate, and also non-environmental impacts e. g. economic and social.

Abbey Lane – Findings.

4.16 As stated in the preceding section, work done for the local transport plan shows that there are excess levels of nitrogen dioxide at several points in Leicester.

4.17 In terms of legal procedure contained in the Environment Act, the Abbey Lane site is significant because, unlike at other sites, the relevant monitoring station lies *outside* the current boundary of the Air Quality Management Area (*Figure 3*). There is clear evidence that the area of risk is larger than the area designated in 2000. Projections show that a small downward trend will not reach the air quality Objective by 2010. Abbey Lane is one of the busiest roads in Leicester, with daily flows of around 30,000 vehicles.

4.18 The actual values are shown in this table (annual means, microgrammes per cubic metre):-

Objective, to be meet by end of 2005	1999	2000	2001	2002	2003	2004	2005	2006	Projected level at end of current LTP programme
40	48	44	50	52	55	47	46	44	**42**

4.19 Since the houses along the west side of Abbey Lane are at the same distance from the carriageway as the monitoring station, this represents exposure to excess levels of nitrogen dioxide.

4.20 As the Act requires, a detailed local assessment was performed (report supplied). This reached the following conclusions:-

a) The current Air Quality Management Area should be extended to incorporate the residential properties fronting the northbound side of Abbey Lane between Byford Road and Langley Avenue (*Figure 3*);

b) The whole Air Quality Management Area should be reviewed City-wide, and the boundaries adjusted appropriately;

4.21 The Report was submitted to DEFRA for statutory appraisal: In July, DEFRA formally accepted its methods and conclusions and requested that an amended Air Quality Management Area be declared on that basis.

4.22 The procedure for extending the Air Quality Management Area is for the Town Clerk to make an Order under the Act. The legislation requires specified stakeholders to be consulted.

a) Following on from this report, a further report examining air quality issues and options affecting Leicester as a whole will be brought to Cabinet.

b) Work is in hand to re-model the whole of the City area and review the Air Quality Management Area boundaries.

c) The current Air Quality Action Plan will need to be reviewed in the light of –

- The current and projected air quality situation; and
- Potential synergies with the Climate Change Action Plan.

5. FINANCIAL, LEGAL AND OTHER IMPLICATIONS

5.1. Financial Implications

There are no new financial implications as a result of extending the air quality management area to include Abbey Lane. Monitoring costs will be covered by existing budgets and the Local Transport Plan which includes schemes to reduce congestion is separately funded.

Martin Judson, Head of Resources, Regeneration and Culture (extn. 297390.)

5.2 Legal Implications

The Council is acting in accordance with powers given to it under Part IV of the Environment Act 1995. The power to make or vary an air quality management area derives from section 83. In making or varying an order, the Council is required to consider the statutory guidance issued by DEFRA.

Under the Council's Constitution and the statutory functions and responsibility regulations, declaration of air quality management areas is a matter for Cabinet decision.

Anthony Cross, Head of Environment and Advocacy Law (extn. 296362.)

6. OTHER IMPLICATIONS

OTHER IMPLICATIONS	YES/NO	Paragraph references within the report
Equal Opportunities	**YES**	**Appendix 1**
Policy	**YES**	**ALL**
Sustainable and Environmental	**YES**	**ALL**
Crime and Disorder	**NO**	**-**
Human Rights Act	**NO**	**-**
Elderly/People on Low Income	**YES**	**Appendix 1**

7. REPORT AUTHOR

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DECISION STATUS

Key Decision	No
Reason	N/A
Appeared in Forward Plan	N/A
Executive or Council Decision	Executive (Cabinet)

Appendix 1 – Background to Air Quality

Air quality is health-based: The Government lays down statutory Objectives, which protect even vulnerable groups like old people, young children and people with heart or lung conditions.

Government scientists have estimated that around 24,000 people die early each year in the UK because of poor air quality. This compares with about 3,200 deaths each year on the roads or 11,000 annual deaths from passive smoking. Put another way, poor air quality shortens the life-span of everyone in the UK by an average of about eight months.

Computer modelling carried out in 2000 showed that, in Leicester, there is one key pollutant, Nitrogen dioxide. This assessment made it clear that the annual mean Objective for nitrogen dioxide would not be met in large areas of the City by the relevant deadline, at the end of 2005. This has been confirmed by subsequent measurement.

In Leicester, the vast bulk of nitrogen dioxide comes from motor vehicles so it is only a problem in the City centre, and elsewhere where people live near busy roads. This pattern is true for every urban area in the UK.

As a result of these findings Leicester declared an Air Quality Management Area in 2000. Because traffic is the key source of pollution, this includes the City centre, and strips along the major roads (*Figure 2*)

A more detailed assessment was reported in 2003, which confirmed that about 95% of the measured nitrogen dioxide was attributable to road traffic.

Since both the problem and the solution lie largely with transport, it made sense to integrate the subsequent Air Quality Action Plan with the Central Leicestershire Local Transport Plan 2006-11 (as Annex 11). The Department of Transport has defined air quality as a key 'shared priority' for transport planning and the Plan was awarded 'Excellent' status for air quality and overall.

Nitrogen dioxide targets were projected for 2010, around the end of the Local Transport Plan period. A computer model was used to predict values at key points in Leicester which correspond to automatic pollution monitoring stations. This enables us to make accurate checks of progress towards the targets by actual measurement, over the remainder of the decade.

The effect of upgrading of the vehicle fleet will be offset by adverse factors: Traffic volumes are predicted to increase slightly over the lifetime of the current Transport Plan and congestion remains a key problem. This can be illustrated from estimated targets set in the LTP:

Indicator	2004/5 Baseline	2010/11 Target
Peak period traffic flows into City centre (7 – 10 am) (Vehicles)	42,683	43,693
City area-wide traffic mileage (millions of vehicle-kilometres)	1,418	1,527
Congestion (average journey time, minutes/person-mile, 7 – 10 am)	4.08	4.33

The Government has acknowledged that predictions of falling pollution levels at the beginning of the decade are proving over-optimistic in many areas, nationally. Reasons for this include -

- Increasing congestion;

- Increasing market penetration of diesel powered cars, light vans and 'SUV's'.

It is calculated that in 2005, diesel-powered heavy vehicles (HGV and buses) contributed 58% to road transport emissions of nitrogen dioxide across the whole Leicester road network, as compared to 42% of the total from light vehicles (cars and light goods vehicles). At Abbey Lane, the actual proportion of heavy vehicles was 8% of the total, compared with 92% for light vehicles. Thus it can be seen that heavy vehicles contribute a very high proportion of measured nitrogen dioxide relative to their numbers.

Appendix 2 BACKGROUND PAPERS – LOCAL GOVERNMENT ACT 1972

- *Leicester Air Quality Review and Assessment – Final Report*. December 2000. (Stage 3 Report).

- *Local Air Quality Management in Leicester, 2003. Part A*: Air Quality Reviews and Assessments. September 2003. (Stage 4 Report).

These Reports are published by Leicester City Council and are available in City libraries and on the City Council's website:

[Stage 3 Report: *www.leicester.gov.uk/sys_upl/documents/departments/dpt_48.pdf*]*
[Stage 4 Report: *www.leicester.gov.uk/sys_upl/documents/departments/dpt_1628.pdf*]*

[* A quick way to access these documents is to go to the front page of the Leicester City Council website (*www.leicester.gov.uk*), then enter "Stage 3" or "Stage 4" in the search box provided and press "search"].

The Reports provide full information on:-

- The legal and administrative background to Local Air Quality Management.
- The statutory Air Quality Objectives.
- Monitoring and modelling methodologies, including validation.
- Locations and other details of monitoring sites.
- The state of air quality in Leicester at the date of each Report.
- The predicted state of air quality for each pollutant at the due date of the relevant Air Quality Objectives.
- The relative contribution of the different sources of each pollutant and, where the Objective will not be met, the degree of improvement required.
- The timetable laid down for periodic Review and Assessment of air quality and for Progress Reports up to 2010.

- *Central Leicestershire Local Transport Plan 2006-2011. Annex 11: Leicester's Air Quality Action Plan 2006.*

To access this document:-

Go to the Leicester City Council website.
Select 'L' in the A – Z search.
Select 'Local Transport Plan'
In the left hand panel, select 'Local Transport Plan 2006-11'
In this screen, select 'LTP-Annex 11-Air Quality Action Plan'.
Part 3 gives a full update of the air quality situation in Leicester.

APPENDIX 3 ILLUSTRATIONS

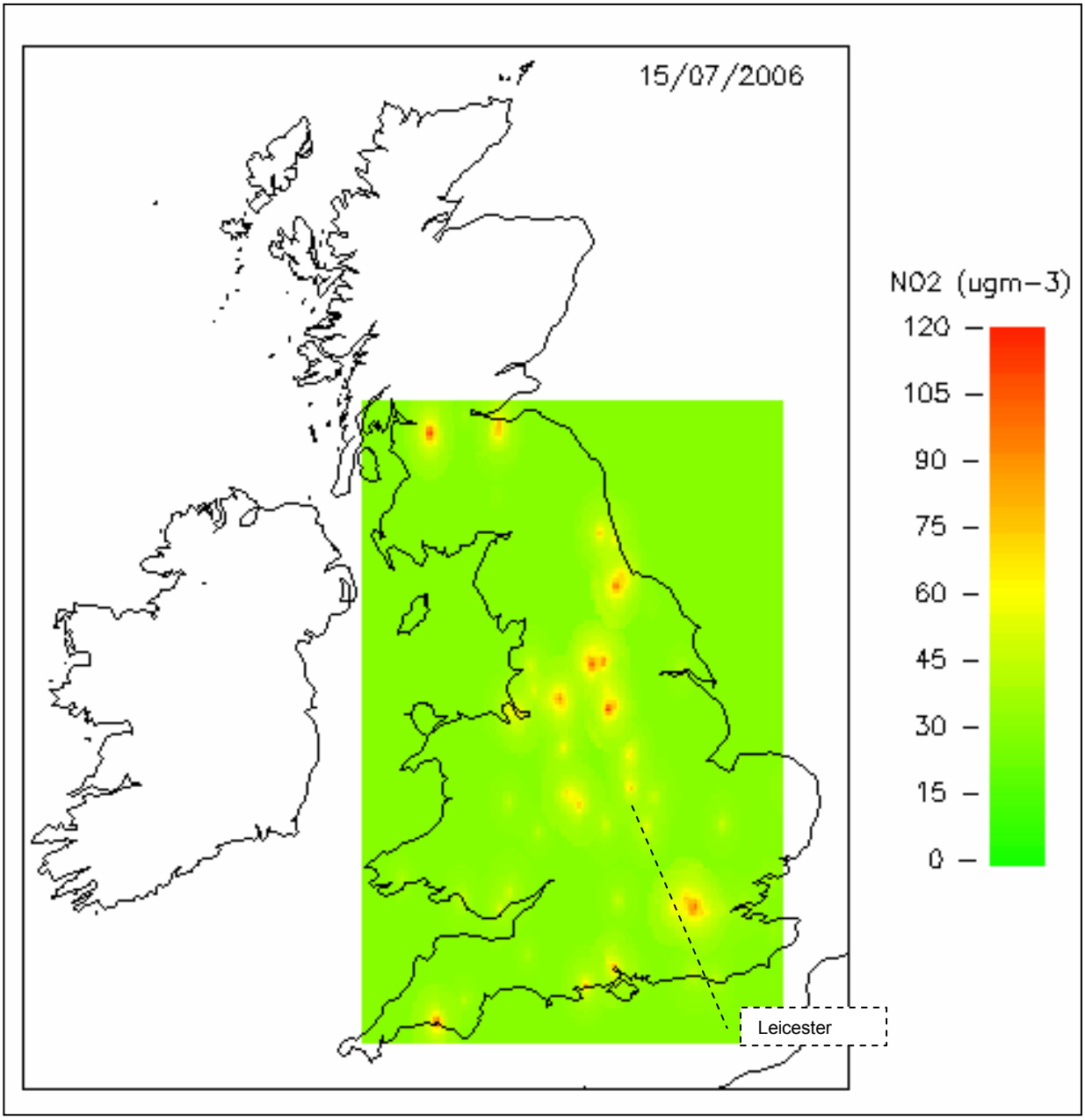

Figure 1

False colour image of nitrogen dioxide concentrations, by satellite absorption spectrometry of the air column over the UK, summer 2006. [Reproduced by courtesy of Dr. Paul S. Monks, Reader in Physical Chemistry and Earth Observation Science, Department of Chemistry, University of Leicester.]

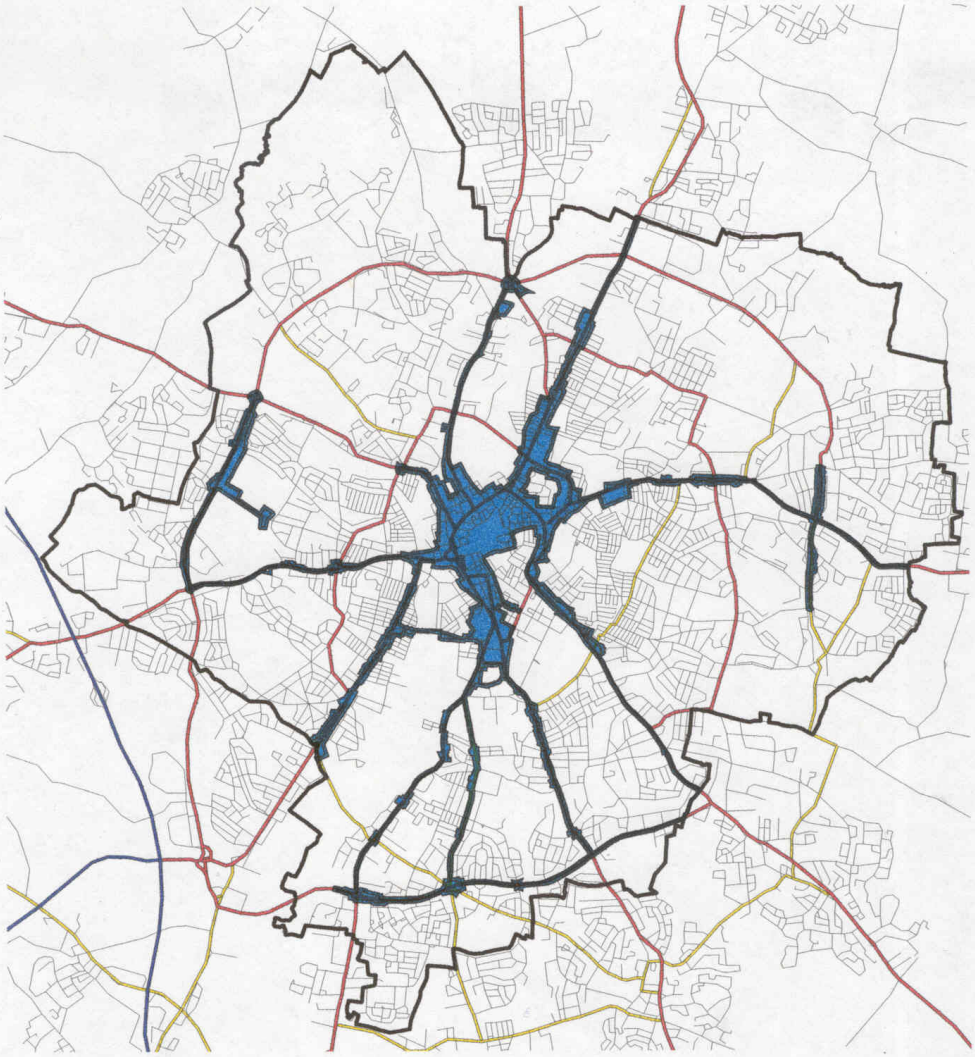

Figure ***2***

Air Quality Management Area (in force 29th December 2000)

THE CITY COUNCIL AIR QUALITY MANAGEMENT AREA IS SHOWN IN BLUE

Figure 3

Proposed Amendment to Abbey Lane Section of Leicester's Air Quality Management Area, 2007