Leicester City Council

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FORWARD TIMETABLE OF CONSULTATION AND MEETINGS:
Overview and Scrutiny Management Board **17th March 2011**

Air Quality in Leicester

Report of the Cllrs Joshi and Newcombe

Purpose of Report

1.1. To present the findings of the Joint Environment and Sustainability and Regeneration and Transportation Scrutiny Task Groups into air quality in Leicester.

1.2. To ask for departmental comments on the recommendations and findings

1.3. To forward recommendations, findings and further observations to Cabinet

2. Recommendations

2.1 Co-ordination of services and consolidation of resources

1. Future-proofing and co-ordination of current and proposed Council strategies should ensure that increasingly scarce resources are used to achieve common and co-ordinated objectives

2. Future-proofing of policies and strategies should ensure adequate financial, technical and staff resources are available to manage air quality improvements and that these strategies link to other related strategies and partnerships, including the local transport plan, work on the carbon reduction and climate change boards, highways and traffic engineering designs and work programmes.

2.2 Vehicle technologies (and low emission zone)

1 Promote access of alternative technology or low emission vehicles to the city centre through differential charging for car parking and other related facilities.

2 The Council works towards the creation of low-emission zones through the adoption of relevant transport strategies

3 That the Council drives through improvements to its in-house and grey fleet and to encourage other major transport users within the city to adapt similar strategies. This should involve the piloting of new technologies, including:

a. Electric vehicles
b. Vehicles fuelled by bio-methane from waste
c. Hydrogen fuel cell vehicles.

4 Future topic areas should include investigation of:

- Bio-methane from waste technology
- Council fleet activities

2.3 Campaigns and public empowerment

1 Regular motorists' education campaign be used to reduce fuel use in traffic, highlighting environmental, health, safety and economic grounds for moderating driving behaviour.

2 Consideration be given to creating an Air Quality Forum involving community partners and seek their help in monitoring and report on air pollution levels.

2.4 Public health agenda

1 That the health aspects of air pollution in Leicester be referred to the Health Scrutiny Committee and that the health-related issues of poor air quality remain high on the health agenda.

2 This should include aspects of domestic and commercial fuel and heating efficiency.

3. Future topic areas should include investigation of

- Bio-methane from waste technology
- Council fleet activities

3. Summary

3.1. This Review was prompted by a number of factors. One was a Parliamentary report into poor air quality and its wide-ranging health implications. Another was a rating of major cities on a range of environmental factors.

3.2. Leicester, while improving its overall rating, had continued to score poorly on air quality terms in relation to other major UK urban areas. The Review acknowledged that specific factors such as the geography of the city and the location of air monitors might cause pollution readings to be higher than in other cities

3.3. The recommendations are mainly long-term and strategic by the nature of the issues involved which seek to address long-term trends and changes in attitudes and behaviour. They seek to bring together policy and resource issues which straddle a number of departments which the Joint Task Group (hereafter called the Task Group) felt could with

environmental, financial and economic advantage be linked up so as to be aligned in the same direction.

3.4. The Review included a visit to Sheffield City Council to discuss issues involved there and strategies adopted to address them. Sheffield is a Beacon authority in its approach to tackling poor air quality,

3.5. Cllr Newcombe would like to put on record his thanks and appreciation for the help and co-operation received from Sheffield City Council's officers when he and City Council officers visited them last month.

3.6. His visit was also able to cater for his continuing interest in trams and their effectiveness, though he reluctantly recognises that promotion of a tram network in Leicester is not currently timely. A note of the visit to Sheffield forms Appendix 3 of this report.

3.7. One difference between Sheffield and Leicester considered to be significant is that Sheffield is a member of a sub-regional Passenger Transport Executive which has greater influence over bus operators' investment and quality standards than appears the case in Leicester.

3.8. During the Review consideration was given to the possibility of developing and applying new technology and techniques to reduce the city's emissions, both from vehicles and from other sources such as buildings. It was felt that long-term waste disposal and recycling contracts awarded by the city ran contrary to the development of alternative technologies and energy-based projects.

3.9. This issue, and the way in which policies and long-term objectives can appear to conflict, forms part of the Review and is discussed in the references to the Overview and Scrutiny Management Board.

3.10. The continuing need to closely link mainstream City Council and health issues was also explored by the report and is also reflected in the recommendations. Because of the health and health quality implications it is suggested the issue be reviewed by the City Council's Health scrutiny committee.

4. Report

4.1. Poor air quality is inextricably linked to other indicators of deprivation – poor health, overcrowded housing and associated high levels of unemployment and poverty, higher than average rates of mortality, and higher than average respiratory problems.

4.2. It is also linked to transnational issues such as global warming, so has a major impact on a number of major policy areas within Leicester. Appendix 1 sets out in fine detail the major issues involved in tackling air quality within the health, transport, equality, carbon reduction and other strategic contexts.

4.3. There is not always a causal link between poor air quality and the above conditions, but they often sit side by side. When Leicester was ranked with 19 other cities in the UK on a Sustainable Cities Index (SCI), it came 2nd overall behind Newcastle, up from 4th the previous year and 14th in 2007.

4.4. The SCI report said: "Leicester….was let down by air quality, where it came 18th." In other respects the city performed well against its competitors, where it came top in three out of

four environmental indicators with “the lowest ecological footprint, least household waste and (it managed) its biodiversity well.”

4.5. The geography of the city can have a tendency to trap emissions, though this is by no means unique to Leicester. Main sources of air pollution are $N0_x$ gases (various nitrogen oxide gases), carbon dioxide ($C0_2$) and particulates – tiny specks of material which come from diesel engine emissions.

4.6. All of these are associated with road traffic, and in particular heavy goods and other large vehicles, though the heating of homes and commercial premises accounts for a huge amount of $C0_2$ production.

4.7. The SCI report said: “High levels of nitrogen dioxide are harmful to respiratory health and bad for the environment. The long-term trend across the UK’s cities is down as industries move out of town and cars become increasingly efficient.

4.8. “However, traffic continues to increase, and busy junctions, narrow city streets, and heavy bus and lorry traffic can all create zones with poor air quality.” Leicester air quality improved, along with a number of other cities, but this was mainly down to “structural changes” in the local economy.

4.9. High levels of traffic-generated air pollution led to the setting up of the city’s first air quality management area. This is a zone where levels of nitrogen dioxide ($N0_2$) are higher than the recommended government objectives and people will be regularly exposed to the pollution.

4.10. For example, people live near or on busy roads or there is sensitive accommodation such as schools and hospitals. The road network dominates Leicester’s zone of exceedance. It is made up of the city centre, an area 10m either side of the inner ring road and all major arterial roads. (Beyond 10m of the roads, levels of pollution drop as air movement allows dispersal of the exhaust emissions).

4.11. There is a long-term plan for a low emission zone covering Leicester City Centre, including the Central Ring Road, where measures will be taken to address air quality problems as part of the Air Quality Action and Local Transport Plans. This measure is supported by the Task Group in its recommendations and some measures which could be taken to lower emissions in this area are set out below.

4.12. A major report on air quality was produced by the Commons Environmental Audit Committee in March 2010. In broad terms the report suggested that there were up to 35,000 premature deaths a year caused by poor air quality.

4.13. Scaled back to Leicester, it was suggested that more than 700 premature deaths a year are caused by poor air quality. Following last year’s General Election the Government has indicated that if it is fined for exceeding air pollution limits it could pass on the fines to local authorities who would be deemed to be responsible for the excess pollution in their areas.

4.14. Within Leicester, the Task Group looked at a number of ways in which the current problems could be better managed. These included more sophisticated traffic management systems, both existing systems such as the SCOOT road network management system. (SCOOT stands for Split Cycle Offset Optimisation Technique).

4.15. The system currently covers around 45% of the city's road network. (This has 353 sets of lights compared with 393 in Nottingham, which features more trunk roads than Leicester in its road system). There are plans for further investment in the development of the system and major road projects, such as at Sanveygate and the Granby Street super-crossing, included £100k for upgrading of the SCOOT system there.

4.16. Members were told that the road with least capacity within the city was Narborough Road, while Abbey Lane, which was the subject of air pollution reduction measures, had comparatively high spare capacity.

4.17. Traffic management was considered to be at the edge of ways in which vehicle-related air pollution could be reduced; campaigns to get drivers to manage their vehicles better was also considered to be an option, with the aim of encouraging drivers to switch off their engines when delayed at traffic lights or other obstructions, less sharp acceleration and braking, and simply using their vehicles less, particularly for short journeys.

4.18. These measures help reduce fuel use (thereby saving money as well as cutting emissions) and are supported by groups as widely diverse as the AA and Friends of the Earth (FoE). The FoE guidance is in appendix X and includes getting out of the car and walking.

4.19. The visit to Sheffield highlighted a number of strategies adopted by that authority. The carbon reduction and air quality teams within the authority were an integrated group

4.20. Influence was brought to bear at planning application stage to planning and development conditions which required the use of low-emission vehicles within the infrastructure of major developments.

4.21. A Clean Air partnership and an Air Quality Forum brought together a wide range of stakeholders who helped to produce the Air Quality Action Plan. The Care4Air campaign (link to web site) is funded by four local authorities in South Yorkshire and funded through the South Yorkshire Transport Plan.

4.22. There is a strong emphasis on community engagement and empowerment, including a community air quality monitoring scheme supported by the City Council, which has actually influenced planning applications

4.23. Sheffield City Council itself promoted the use of low-emission vehicles, running a number of compressed natural gas (CNG) and bio-methane vehicles to demonstrate

- The air quality benefits of bio-methane as a vehicle fuel;
- Reduced greenhouse gas emissions, directly and by avoiding incineration or landfill of waste;
- Cost savings of alternative fuels.

The project includes co-operative projects by the waste collection contract holder.

4.24 A scheme to provide text alerts about poor air quality to people with asthma and other relevant health issues and to give health management advice is being rolled out in a joint venture with Sheffield City Council and the NHS.

4.25 At Sheffield a low emission zone concentrated on a tightly-drawn area around the city centre. A similar project is a long term vision for Leicester, based on the area within the city's inner ring road.

4.26 One issue discussed throughout the term of the Review was the implications of and possible policy and financial conflicts created through the long-term waste recycling and disposal contract which the Council has with Biffa.

4.27 The SCI report says that Leicester performs extremely well in terms of the rate of recycling and effectiveness of the disposal arrangements, so in this context the objectives of this contract are being met and the contract is extremely effective.

4.28 The long term nature of the contract allows for settled partnership arrangements as well as having break points at which the contract can be reviewed. A long term committed supply of waste material would be helpful in consideration of any arrangements to establish an incinerator, either locally or further afield.

4.29 However, the Task Group considered whether the existing arrangements helped the development or use of alternative vehicle technology. The January hearing of the Review examined the possibility of creating bio-methane from waste.

4.30 Advantages of bio-methane included the following:

- Bio-methane as a vehicle fuel is used widely across the world. As a vehicle fuel it was highly carbon-negative and performed well with respect of air quality emissions compared to other internal combustion technologies.

- Vehicles that used bio-methane were very similar to the existing internal combustion technologies.

- There were no ethical issues (compared to biodiesel, bioethanol etc, which for example can see food crops diverted to fuel production).

- Bio-methane production from waste solved landfill and other waste disposal problems.

- Work was being carried out by companies and local authorities in the United Kingdom – a considerable amount of piloting had already taken place and it was hoped that savings could be achieved.

4.31 Disadvantages included the following:

- The council would be locked into a very long term waste disposal contract with Biffa.

- The Council had existing vehicle procurement arrangements.

- There would be an additional cost of the new technology vehicles.

5. FINANCIAL, LEGAL AND OTHER IMPLICATIONS

5.1. Financial Implications

To come

5.2. Legal Implications

To come

5.3. Climate Change Implications)

To come

6. Other Implications

OTHER IMPLICATIONS	YES/ NO	Paragraph/References Within the Report
Equal Opportunities	Y	
Policy	Y	
Sustainable and Environmental	Y	
Crime and Disorder	N	
Human Rights Act	N	
Elderly/People on Low Income	Y	
Corporate Parenting	N	
Health Inequalities Impact	Y	

7. Background Papers – Local Government Act 1972

7.1. Leicester Best Value Air Quality Performance Plan

7.2. Local Transport Plan

7.3. House of Commons Environmental Audit Committee – *Air Quality, March 2010*

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APPENDICES

APPENDIX 1 LOW EMISSION STRATEGIES: A POSITION PAPER

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0. *Executive Summary*

0.1. Why is Air Quality Important?

0.1.1 Public Health

Air Quality is a health issue. Statutory Air Quality Objectives are aimed at avoiding health impacts even on the most vulnerable groups. It has been estimated by the Government that poor air quality -

- *Reduces the life span of everyone in the UK by an average of 7 – 8 months;*
- *Causes up to 50,000 premature deaths each year in the UK. (In Leicester, this equates to at least 750 premature deaths).*

0.1.2 Social Disadvantage

Studies show that the most disadvantaged groups tend to live in areas of poor air quality. People in these categories also suffer from other stress factors which exacerbate the effects of poor air quality.

0.1.3 The UK and EU Context

Failure to meet air quality Objectives could result in the UK being taken to the European Court and large fines being imposed. A Parliamentary Environmental Audit Committee enquiry strongly criticised central and local government for failing to take effective action to improve air quality.

0.2. Air Quality in Leicester

0.2.1 The Statutory Process so Far

After periodic statutory Reviews and Assessments, Leicester declared an Air Quality Management Area in 2000 and extended it in the Abbey Lane corridor in 2008. The Air Quality Management Area was declared with respect to emissions of nitrogen dioxide from traffic. For this reason the current Air Quality Action Plan forms part of the Central Leicestershire Local Transport Plan 2006-11.

A further statutory Review and Assessment is nearing submission, in accordance with DEFRA requirements. Work is also in hand to develop the air quality elements of the next combined Local Transport Plan and Air Quality Action Plan.

0.2.2 Key Findings so Far

Nitrogen dioxide ($N0_2$)harms health through respiratory irritation. It has been identified as the key pollution issue in Leicester. 90% is emitted from motor vehicles. It is clear from monitoring that there is no robust downward trend in levels in Leicester and the situation is deteriorating in some areas.

The increasing population of diesel light vehicles has adversely affected progress towards meeting the air quality objectives. Although measured levels do not justify action according to Government criteria, a University of Leicester study showed the incidence of wheeze and asthma in 1 – 5 year olds doubled between 1990 and 1998. It is likely that there is a synergy between $N0_2$and particulates, both of which are found in higher concentrations near busy roads.

Ozone is involved in a complex cycle of chemical reactions in which it forms and breaks down again in association with nitrogen dioxide. In the presence of ozone, more secondary $N0_2$can form from vehicle and other emissions.

Legislation does not require local authorities to treat ozone as a statutory pollutant. Nonetheless there are increasing ozone incidents every summer in Leicester, where government standards are exceeded. A study in Leicester has shown that acute respiratory hospital admissions increase following these incidents.

0.2.3 The Impact of Traffic

Studies for the 2006-11 Local Transport Plan (LTP) show that peak traffic flows, area-wide mileages and journey times/congestion will increase over the lifetime of the LTP, causing increased emissions. It is clear from modelling carried out for the current LTP that its measures will fall far short of meeting the air quality Objectives by the end of the LTP period. The scale of reduction required is such that it will only be achieved by radical, long-term measures.

'Soft' measures to influence public behaviour are unlikely to have any measurable effect in the medium-term. However changing public attitudes is clearly of fundamental importance in the long–term.

0.3. Air Quality, Climate Change and Sustainability – Policy Integration

0.3.1 Definitions

Air Quality, Climate Change and Sustainability overlap strongly. It is therefore possible, and desirable, to maximise the impacts of policies by seeking 'win-win' solutions. This increases the coherence of policy and enhances public understanding and acceptance. Policy conflicts are also a risk in some areas and these need to be identified and avoided. Importantly, this approach will avoid waste and optimise the use of scarce resources.

0.3.2 The UK Policy Context

Current Government guidance strongly promotes policy integration between Air Quality and Climate Change. Section 3.2 sets out the key statements from current DEFRA and DfT Guidance (q.v.). Attention is drawn to significantly enhanced cost-benefits of taking a synergistic approach to interventions.

0.3.3 Policy Integration – A Low Emissions Strategy for Leicester

An explicit, overarching Low Emissions Strategy approach would underpin co-ordination of all of these policy areas.

Policy options should be rigorously evaluated for their full range of implications before adoption.

0.4. Directions for Leicester

0.4.1 City Council Resolutions

The need for this approach has already been recognised in principle by resolutions of Cabinet and various other Council bodies. These are detailed in Section 4.1 (q.v.).

0.4.2 EMAS

Failure to meet the air quality Objective has in the past been flagged up as a 'major non-conformity' by EMAS audits. However, it is recognised that all reasonable steps that are within the Council's control under existing circumstances have been taken and it is hoped that this non-conformity will be closed off this year and downgraded to an 'Observation'.

0.4.3 The Air Quality Action Plan and Local Transport Plan

Leicester's current Air Quality Action Plan (AQAP) is integrated with the current Local Transport Plan. This makes sense since the cause and solutions of poor air quality largely rest with transport. The air quality component of the current LTP was awarded 'excellent' status by DfT, as was the overall Plan. It is therefore anticipated that the methodology used for setting air quality targets will be adapted for the next LTP.

However, the air quality targets modeled from the likely impact of the LTP Preferred Package fell substantially short of meeting the air quality Objectives at the end of the current LTP period, in 2011.

A radical study commissioned in 2009 from TRL examined options for interventions in the next LTP and to make recommendations. While this is not a realistic agenda for the next Transport delivery programme in the medium-term, it could influence the long term strategic vision. This aligns with the 25-year 'One Leicester' time frame and is a sensible time scale for working towards the needed reduction in emissions.

The challenge is going to be to reconcile the need for radical long-term interventions with the current, bleak fiscal medium-term outlook.

0.4.4 Low Emission Strategies and Land Use Planning

Leicester City Council has signed up to the Low Emission Strategies Development Programme (LESDP). This programme is supported and endorsed by Government and takes an integrated approach to Air Quality and Climate emissions. The aim is to use the Land Use Planning System to reduce transport emissions by accelerating the uptake of low-emission vehicle technologies and promoting modal shift away from car travel.

A DEFRA-funded project is in hand to develop a policy package in connection with travel and parking in connection with the planned New Business Quarter (NBQ), using innovative transport solutions.

0.4.5 Vehicle technology

The three most promising alternative vehicle technologies are biomethane fuel from waste, hydrogen fuel cells and battery electric vehicles. Various hybrids of these also offer advantages. A summary of the advantages, disadvantages and current status of these is given in Section 4.5 (q.v.).

1. *Why is Air Quality Important?*

1.1 Public Health

Air Quality is a health issue. The statutory Air Quality Objectives are set to avoid adverse health impacts even on the most vulnerable groups in the population.

The **Local Air Quality Management** (LAQM)Regime was set up by the Environment Act 1995, Part IV. It has the following main elements:-

A national Air Quality Strategy, updated periodically [UK Air Quality Strategy 2007, DEFRA]

↓

Statutory (EU led) **Air Quality Objectives** for specified pollutants

↓

Periodic **statutory Review and Assessment** of Air Quality by Local Authorities

↓

Where air quality Objectives are not met, the requirement to declare **Air Quality Management Areas** (AQMA's).

↓

Where AQMAs exist, and local action is needed, the requirement to draw and to periodically revise **an Air Quality Action Plan** (AQAP), using all or any of the Council's powers and functions as may be appropriate.

Evidence to the Parliamentary Environment Audit Committee in 2010 indicates that poor air quality –

- ***Reduces the life span of everyone in the UK by and average of 7 – 8 months;***
- ***Causes up to 50,000 premature deaths each year in the UK. (In Leicester, this equates to at least 750 premature deaths).***

[House of Commons Environmental Audit Committee – *Air Quality, Report of the Fifth Session 2009 - 10*].

This compares with about 3,000 fatalities every year on the roads and about 11,000 deaths per year caused by passive smoking.

1.2 Social Disadvantage

Studies show the most deprived groups tend to live in areas of poorest air quality. This is compounded by the fact that people in this category are also affected by a range of stress factors. The following is taken from *Air Pollution in the UK, 2005* (DEFRA, August 2006). 'Deprivation', for the purposes of this study, is a combined index of unmet needs in terms of income, employment, education and housing.

Analysis shows the 30% of the population of England which is most deprived is urban and suffers the worst air quality, with respect to nitrogen dioxide and particulates (but not ozone). This effect is more pronounced if we consider the most deprived decile (10%) of the population. Conversely, the majority of the population living in the areas subject to the top 10% of levels of those pollutants is accounted for by the most deprived communities. In England, over 70% of the population living in the most PM_{10} polluted areas is characterised by being in the four most deprived deciles of the population (40%). There is a similar relationship for nitrogen dioxide.

National projections indicate that there is a worsening trend over the decade in the relationship between deprivation and exposure to bad air quality. Although more research is needed, there is also some evidence that deprived populations living in areas of poor air quality are more susceptible than the population as a whole to the harmful effects of air quality due to its combined impact with other social stressors. Analysis of the UK population demonstrates that the young are statistically more likely to live both in areas of social deprivation and of poor air quality.

Although the resident population of Leicester's Air Quality Management Area is estimated to be about 3% of the City's population (9,000 people), the affected people typically live in inner city areas and/or areas in close proximity to major roads, which correspond to areas of elevated social deprivation. Therefore, any improvement in air quality in these areas will have a disproportional benefit for the actual people most seriously affected.

A very good example of this problem is the St. Matthews estate.

Taking the mortality figures for the UK pro-rata, we can make the crude calculation that poor air quality would lead to about 750 premature deaths per annum in Leicester. However, because of the demographic factors referred to, this is almost certainly an underestimate, and the proportion of the UK mortality attributable to deprived / polluted areas within the City will be larger.

1.3 The UK and EU Context

The UK's failure to meet EU air quality Objectives could result in the Government being taken to the European Court and subjected to massive ongoing financial penalties. The Government is currently attempting to secure an extension to the time limit for meeting the limit values for nitrogen dioxide in urban areas.

This year, the question was examined by the Parliamentary Environmental Audit Committee and the following are excerpts from its report [House of Commons Environmental Audit Committee

"…Air pollution on UK streets is contributing to tens of thousands of early deaths each year and the Government is not doing enough to tackle the problem."

"…Air pollution probably causes more deaths than passive smoking, traffic accidents or obesity, yet it receives very little attention from Government or the media."

"…Local authorities need to do more to tackle poor air quality, and they must be given information on how to develop local air quality strategies".

"…The quantified costs of poor air quality that are used to develop policy are outdated. They do not take account of all known health effects, treatment costs and environmental damage, nor do they take account of fines that could be imposed by the EU for failing to meet air quality targets."

"…Awareness needs to be raised and behaviour needs to change if air quality targets are to be met."

"Air pollution from road vehicles causes the most damage to health. A dramatic shift in transport policy is required if air quality is to be improved. This means removing the most polluting vehicles from the road, cleaning up the vehicles that remain and encouraging smarter choices about transport. And many of the policies needed to reduce transport emissions have the added benefits of tackling climate change by reducing carbon dioxide emissions."

2. *Air Quality in Leicester*

2.1 The Statutory Process so Far

Environment Act 1995, Part IV

Detailed Assessment of Air Quality (2000)
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Breach of statutory Objectives identified for nitrogen dioxide from traffic
↓

Declaration of Air Quality Management Area (AQMA) (2000)*
↓

Further Review and Assessment of Air Quality (2003)
↓

Publication of Air Quality Action Plan (AQAP) (Latest update 2006)
- Annex 11 of the LTP
↓

Updating and Screening Assessment (Latest – 2006)
↓

Detailed Assessment in Abbey Lane corridor (2007)
↓

Extension of AQMA in Abbey Lane corridor (Order in force 25-04-08)**
↓

Further Detailed Assessment of Air Quality in 2010: Re-modelling of whole AQMA (report in preparation - ONGOING)
↓

Review of AQAP for inclusion in Local Transport Plan 2011 → (2009 onwards – ONGOING)

* See Fig. 1

** 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 – Hence the issue of an Order enlarging the Area in April 2008.

2.2 Key Findings so far

2.2.1 Nitrogen Dioxide

$N0_2$is toxic and aggravates respiratory and cardiovascular conditions. (*Nitrogen dioxide,* Expert Panel on Air Quality Standards, 1996). It has acute, short-term effects at high concentrations and more insidious long-term effects at lower concentrations. For this reason, the UK statutory Objective includes both an hourly and an annual criterion.

It is emitted directly from internal combustion engines ('primary NO_2') and indirectly as nitric oxide (NO) which oxidises to $N0_2$. The combined emission is referred to as 'NOx'.

The Review and Assessment process had demonstrated that $N0_2$is the only pollutant currently of significance *in terms of existing statutory standards*. This is reflected in the area covered by the Leicester AQMA, which comprises the City centre as a whole, plus 'ribbons' extending along the main radial and peripheral roads. [Fig. 1]

It is estimated that the resident population of the Leicester Air Quality Management Area 2000 is about 9,000, or 3% of the City's population. The extension of the AQMA in the Abbey Lane corridor adds around 100 homes to this total.

It is clear from monitoring data that there is little evidence of a robust downward trend in nitrogen dioxide levels. In addition, modelling performed for target setting for the purposes in the Central Leicestershire Transport Plan 2006-11 showed that implementation would not meet the annual mean Objective criterion in all locations in 2010, at the end of the life of the Plan. These sites are all locations where there is actual residential exposure. The baseline and predicted levels are set out in Table 2.2.1.

Table 2.2.1 – Annual Mean Nitrogen Dioxide at Key Receptor Points
(Annual Mean Objective value = **40** microgrammes per cubic metre)

RECEPTOR POINT	Type of site	BASELINE (Average, measured annual mean NO_2 2003-5 ($\mu g.m^{-3}$))	LTP TARGET (Annual mean value for 2010) modelled at monitoring station	Measured annual mean in 2009
Glenhills Way	Roadside	65	55	75
Abbey Lane	Roadside	49	42	54
Melton Road	Roadside	55	47	56
St. Matthews Way	Roadside	59	48	56

The vast majority of this pollutant in Leicester (90%) originates from motor exhaust emissions. Over the Local Transport Plan period, increasing numbers of diesel cars, light vans and 'SUV's', coupled with high and increasing levels of heavy diesel traffic, will offset most of the improvement in emissions from improved vehicle technology.

At a national level, the UK Air Quality Expert Group has analysed the reasons for increased $N0_2$levels in urban areas. It shows that previous assumption, that the proportion of primary NO_2 in vehicular NOx emissions was about 5%, was a huge under-estimate: Actual proportions vary between 20% and 70% for diesel cars and heavy duty vehicles. While 'cleaner' vehicles emit less total NOx, a much larger proportion of this is emitted as NO_2. (*Air Quality Expert Group, fourth report: Trends in primary nitrogen dioxide in the UK*).

Detailed studies in Leicester clearly demonstrate health effects for PM_{10} particulates and for ozone (see 2.2.3, below) but not specifically for nitrogen dioxide. However, the evidence for real residential exposure in parts of Leicester to levels of nitrogen dioxide significantly in excess of the annual mean Objective is relatively very strong, although not so for the other two pollutants. Since this limit for NO_2 was laid down after careful consideration of all available evidence by the Air Quality Expert Panel, this is worrying: Worldwide, numerous studies has demonstrated a correlation between respiratory illness and exposure to ambient levels of nitrogen dioxide likely to be found in urban situations.

2.2.2 Particulate matter (PM_{10})

These are particles 10 millionths of a metre or less in diameter. They have no fixed chemical composition and are derived from a large range of natural and man-made sources. A large proportion of local, man-made particulate is derived from traffic, in particular but not exclusively from the diesel engine.

Particulates inflame the airways and may exacerbate existing lung disease and increase allergic sensitivity. It is now thought that a very fine fraction of particulates (much smaller than PM_{10}) may be responsible for most of the harmful health effects observed.

Since 1995, there has been no evidence sufficient to justify declaring an Air Quality Management Area on the basis of exceedance of the statutory Objectives for particulates. However, since 2005, there has been evidence of

deterioration at certain monitoring sites (Vaughan Way, Glenhills Boulevard) to the extent of the Objectives being approached or exceeded. This is under observation to determine whether there is a significant annual trend.

The reasons for this are considered to be similar to those for the lack of progress in reducing nitrogen dioxide levels, i.e. increasing traffic volumes and congestion, coupled with increasing numbers of diesel light and heavy vehicles.

In 2006, the Pollution Control Team collaborated with the Division of Child Health at Leicester University (Leicester Teaching Hospitals) to investigate the incidence of respiratory symptoms in 4,400 children in Leicester and Leicestershire, aged between 1 and 5 years in 1998. Periodic checks on the existence of symptoms were made by questionnaire and the correlation with levels of locally generated PM_{10} particulate was investigated, using the AIRVIRO dispersion model to determine levels of exposure at each child's residential address. (It is hoped to repeat and expand this study). The data was adjusted for a non-spatial index of socioeconomic status.

In 1990 it was found 11% of 1 – 5 year olds had diagnosed asthma, 16% had wheezed and 13% had reported attacks in the last 12 months. At the start point of the study in 1998, the prevalence of asthma and wheeze had doubled. The study found a strong association between exposure to locally generated PM_{10} levels (at residential addresses near main roads) and the incidence of wheeze and cough, which was independent of social confounding factors Clear evidence was found that.the higher the level of exposure the more prevalent were the symptoms. (*Locally generated particulate pollution and respiratory symptoms in young children,* Pierse, Rushton, Harris, Kuehni, Silvermann and Grigg, BMJ Thorax Journal, 2006)

Since there is a strong correlation between primary particulate and nitrogen dioxide concentrations close to busy roads it is likely that the elevated levels of nitrogen dioxide present were contributing to these health effects.

2.2.3 Ozone

Ozone is a secondary pollutant formed by a complex cycle of reactions involving the effects of sunlight on oxides of nitrogen and volatile organic compounds. The major source of these in Leicester is traffic emissions. Ozone has short-term and long-term health effects, including reduced lung function, and aggravated asthma and bronchitis. Of all pollutants, ozone has the smallest margin between typically observed ambient concentrations and those at which adverse health effects are experienced.

Almost every summer in Leicester, there are 'ozone incidents' lasting for several days. During spells of hot, still, sunny weather, ozone builds up to the level where Government standards are exceeded.

Asthma is a complex condition which appears to involve dust, house-mites, pollen, allergic response and stress as well as pollution. However, there is a measurable increase in acute, respiratory hospital emissions in Leicester following ozone incidents. (*An Investigation into Hospital Admissions and Ozone Levels in Leicester,* C. A. Mallon, 1995).

Paradoxically, there is no statutory duty on Leicester City Council to take measures to reduce ozone levels through the Air Quality Action Plan. The government has determined that ozone is a transboundary problem, most appropriately addressed through international, governmental action.

Also, formation of nitrogen dioxide actually scavenges ozone out of the atmosphere in heavily trafficked urban areas, although it re-forms as part of the ozone chemical cycle downwind of the urban area. In turn, Leicester receives ozone from urban areas upwind, such as the West Midlands, which tends to increase our levels of nitrogen dioxide because increased levels of ozone permit conversion of more of the locally emitted NO into harmful NO_2.

Summer ozone is increasing and this is clearly implicated in failure to achieve the air quality Objective for NO_2. Reduction in the emission of precursors of ozone, i.e. NOx and volatile organics, is also of benefit in its own right.

2.3 The Impact of Traffic

Projections carried out in connection with target-setting for the Central Leicestershire Local Transport Plan 2006-11 show that peak traffic flows, area-wide traffic mileage and consequent congestion (expressed as average journey times) will deteriorate over the period of the Plan. This supports view that progress towards the air Quality Objectives for nitrogen dioxide is likely to be slow (Table 2.3.1).

Table 2.3.1

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

Projected reductions in NOx emissions due to improved technology penetrating the vehicle fleet are being offset by –

- Predicted increased traffic flows, mileages and consequent congestion; and
- Increasing penetration of diesel cars, light vans and 'SUV's' into the UK fleet.

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, compared to 42% of the total from light vehicles (cars and light goods vehicles). At Abbey Lane, the proportion of heavy vehicles was eight per cent compared with 92% for light vehicles. Thus heavy vehicles contribute a very high proportion of measured $N0_2$relative to their numbers. To complete the scale of intervention required, this can be set against the calculated reductions in traffic volumes required to meet the Objective criterion at the same four key sites:

Table 2.3.2

Receptor Point	LTP prediction for 2010 (Annual means nitrogen dioxide, microgrammes per cubic metre)	Estimated reduction in traffic flow to achieve the Limit Value* in 2010 (%)
Abbey Lane	42	13
Melton Road	47	56
St. Matthews Way	48	78
Glenhills Way / Lutterworth Road	55	46

[* Limit Value = Maximum annual mean of **40** microgrammes per cubic metre].

To set the current (2006) Air Quality Action Plan in its context it is apparent that –

- Infrastructure and other measures set out in the LTP will not achieve anything approaching a sufficient reduction in NOx emissions to meet the relevant Air Quality Objective over the lifetime of the Plan; and
- More radical interventions will be required over a longer timescale, in order to attain the Objectives.

The further general point can be made that, in the medium-term, campaigns to influence the public probably have little measurable effect. However, changing the public's attitudes is clearly of fundamental importance in the long-term.

3. Air Quality, Climate Change and Sustainability – Policy Integration

3.1 Definitions

There are three environmental imperatives:-

Air Quality – Emissions which are harmful to health at a local level, especially near to sources such as busy roads. The key air quality issue in Leicester is $N0_2$: About 90% of the measured nitrogen dioxide in Leicester is derived from motor vehicles. Of this, about 60% is from heavy vehicles.

Climate Change – Greenhouse gases which cause large-scale and potentially catastrophic climatic effects. The most important greenhouse gas is $C0_2$. Over 20% of emissions are from motor vehicles and this sector is growing.

Sustainability – Making sure that our mode of life does not impair that of future generations in a context of huge population growth and economic growth impacting on finite resources.

These overlap but are not identical. The Government (see Section 3.2) understands interventions can attack both climate change and air quality. Implementing these will give policy a greater coherence, direction and force. This approach will also present a few simple aims to the public, avoiding a confusing plethora of strategies and initiatives. This will improve the chances of stakeholder understanding and acceptance.

Conversely, policy conflicts are likely unless there is detailed and rigorous assessment of policy options for all their consequences and their costs/benefits, before adoption. This approach will avoid wasteful activities and optimise the use of increasingly scarce resources.

3.2 The UK Policy Context

Government Guidance strongly promotes the concept of pursuing the co-benefits of combatting poor air Quality and climate emissions. This section summarises the key recommendations of these documents.

3.2.1 The Future of Urban Transport (Prime Minister's Policy Unit, 2008)

The DfT Study analyses the costed aspects of urban transport, including air quality under the following headings:

a. Excess delays
b. Accidents
c. Poor Air Quality
d. Physical inactivity
e. Greenhouse gas emissions
f. Noise and amenity

It is estimated that the aggregated measurable costs in the UK of transport in urban areas with populations in excess of 10,000, from congestion, accidents, poor air quality and physical inactivity/obesity are *each* roughly of the same order of magnitude i. e. around £10 billion per annum. In a time of economic stringency, there are therefore very large opportunity costs attached to failure to take effective action.

3.2.2 Air Pollution – Action in a Changing Climate (DEFRA, 2010)

This Guidance document says air pollution causes annual health costs of around £15 bn in the UK, comparable to the cost of obesity (£10 billion), and that many activities, particularly relating to transport and energy generation, contribute both to local air pollutions and wider global climate change. Specifically, the report makes the following comments:-

"*Taking action to reduce the effects of climate change provides an excellent opportunity to deliver further benefits to both air pollution and greenhouse gas (GHG) emissions. Both arise from broadly the same sources and will therefore benefit from many of the same measures; so the combined benefits are substantially greater, when we compare them with the costs, rather than if we look at each group of benefits in isolation.*"

"Now is the right time to consider how we can achieve these additional benefits, particularly from improving public health, through a closer integration of air quality and climate change policies. In the much shorter term we face challenges in meeting our current air quality targets, especially in relation to NO_2…"

"*Government proposals to achieve air quality/climate change co-benefits will be realised through actions such as promoting ultra-low carbon vehicles, renewable sources of energy which do not involve combustion, energy saving efficiency measures and reducing agricultural demand for nitrogen.*"

"…evaluation of a measure to increase the uptake of low emission vehicles showed that when viewed from an air quality perspective the benefits were marginal, with a cost of £61 million and benefits of around £72 million on an annual basis. However, the measure was also estimated to realise climate change benefits valued at £91 million, thus bringing the total annual benefits to around £163 million for the same cost of £61 million."

In the best case scenario, "*Climate change action brings additional benefits through air quality improvements…and a high level of ambition is set for NO_2 emissions reduction*"… In the worst–case scenario, action on climate change brings further costs through the deterioration of air quality: "…*Conventional biodiesel or bioethanol is the fuel of choice for road transport; our homes and businesses get their heat and power from localised combined heat and power plants , fuelled by gas or biomass; coal-fired electricity generation provides the UK base load, with post-combustion CCS fitted; biomass is widely used in homes as a heating fuel of choice in small boilers;…"*

3.2.3 Low Emissions Strategies: Using the Planning System to Reduce Transport Emissions – Good Practice Guidance (DEFRA, January 2010).

The document fleshes out the Low Emissions Strategies (LES) approach (see Section 4.4). It addresses the need for policy co-ordination in the following terms:

"Climate change is the greatest long-term challenge facing the world today. There is strong and indisputable evidence that climate change is happening and that man-made emissions are its main cause. If left unchecked, climate change will have profound impacts on our societies and way of life.

Air pollution still harms health and the environment: it is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months, with estimated equivalent health costs of up to £20 billion each year. There are significant benefits to be gained from further improvements.

Air pollution and climate change are intrinsically linked. National policy advises local authorities to 'bear in mind the synergies between air quality and climate change, and the added benefits to the local, regional and global environment of having an integrated approach to tackling both climate change and air quality goals.'

Joined up policies are particularly important for the transport sector, which is by far the most common cause for the declaration of air quality management areas and is the only sector where $C0_2$ emissions continue to increase."

3.2.4 *Guidance on Local Transport Plans* (Department for Transport, July 2009)

This is the basic guidance which sets the pattern for the forthcoming replacement Local Transport Plan, now under development. One of the stated key goals is to 'Contribute to Better Safety, Security and Health', including the aim to

"*Reduce social and economic costs of transport to public health, including air quality impacts in line with the UK's European obligations*"

On air quality, the Guidance goes on to say:

"*Local authorities are responsible for monitoring local air quality and implementing action plans to improve air quality where this is necessary. The majority of air quality action plans concern road transport emissions. Good co-operation between transport planning, air quality and spatial planning departments, as well as with partner organisations, is essential to ensure a strategic approach to improve quality of life for those living near to busy roads and junctions. Integrating Air Quality Action Plans with LTP's is strongly encouraged…*"

It is important the LTP's are effectively co-ordinated with air quality, climate change and public health priorities – measures to achieve these goals are often complementary. Reducing the need to travel and encouraging sustainable transport can reduce local emissions, whilst improving public health and activity levels."

"*The Department will continue to take an interest in the overall quality of an authority's LTP, and of its delivery, and may take these factors into account where this is relevant to its decisions, for example in relation to bids for challenge funding or major projects.*"

3.3 Policy Integration - A Low Emissions Strategy for Leicester

As can be seen from Section 3.2, there are a number of driving factors making it increasingly imperative to co-ordinate policy development in the areas of Air Quality and Climate Change. Not least of these is the severe pressures on public funding which make it crucial to frame and work towards policy objectives making the best use of resources.

In Leicester, the causes and the solutions overlap and an holistic approach has considerable advantages. Win-win solutions can be identified which give policy a greater force and direction, as well as facilitating public understanding and acceptance of policies.

There is also significant potential for policy conflicts: If not addressed these could result in –

- Failure to meet statutory obligations;
- Failure to meet national and local performance indicators;
- Confusion among stakeholders over policy aims;
- Sub-optimal use of resources between the various interests and disciplines involved.

Particular areas which can be identified for co-ordinated development are –

- Land Use Planning;
- Transport Planning;
- Automotive technology and vehicle fuel;
- Use of renewable energy sources in building, particularly biomass.

Policy options need rigorous evaluation in terms of all implications, before adoption. This implies a robust evidence base for the benefits, in relation to costs.

An explicit, overarching Low Emissions Strategy approach would underpin co-ordination of all of these policy areas.

4. *Directions for Leicester*

4.1 City Council Resolutions

It has already been recognised by Members that policy integration is desirable. The following resolutions are in place:-

Cabinet, 21st January 2008

(6) *That the corporate director investigates and implements integration of Local Air Quality Management into the Council's Climate Change Programme to ensure that synergies and initiatives are properly managed and exploited.*

Overview and Scrutiny Management Board, 15th January 2008

(3) *…that the Board requests the Climate Change Board include matters relating to Air Quality in their investigations.*

Environment and Sustainability Task Group, 7th April 2008

(Report: *Air Pollution – Issues and Solutions – Part 2*)

(4) *That the Task Group noted that there needed to be more co-operation between Council policies*.

(5) *That the Chair reports the Task Group findings to the Climate Change Board*.

Cabinet Lead for Environment – Briefing, 7th May 2008
Cabinet Lead for Regeneration and Transport – Briefing, 14th May 2008

Report*: The UK Low Emission Strategies Project – An Opportunity for Leicester to Participate.*
Both Cabinet Leads approved participation on a 'no cost' basis.

4.2 EMAS

The Council has the following Eco-Management Audit Scheme (EMAS) Objectives and Targets in Place:-

"Improve air quality within the City…by achieving the 4 key point targets set in the LTP for air quality (by 2010)." (NB – These are based on modelling the impact of implementing the current LTP Preferred Package, and fall short of the Objective criterion by a significant margin.)

The current EMAS Audit Report maintains the following non-conformity -

- The Existing Air Quality Action Plan does not make provision for reaching the EU Air Quality Objectives in 2010; and

- Nitrogen dioxide levels remain in excess of the levels set for 2005 in the Air Quality Regulations.

This nonconformity has currently been reduced to 'minor' status and it is hoped in the next round of audit to write it off altogether and reduce it to the status of an 'Observation', subject to an appropriate package of measures by the City Council being in place. This is reasonable, since the City Council has only a limited measure of control over many relevant areas, at least in the medium-term.

4.3 The Air Quality Action Plan and Local Transport Plan

Leicester's current Air Quality Action Plan (AQAP) is embedded in the Central Leicestershire Local Transport Plan 2006-11 (Annex 11). This makes sense since both the air quality problem and the solutions revolve around transport.

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, which attracted substantial reward funding.

However, targets set for the completion of the current Local Transport Plan ("LTP-2") in 2011 still fall short of statutory Air Quality Objectives. Over the same period traffic flows, mileages and congestion are predicted to increase. To achieve any reduction in nitrogen dioxide levels at all, traffic flows would have to be reduced by about 10%, with current technology (see also Table 2.3.2).

Delivery of infrastructure measures funded by the LTP settlement is progressing, subject to recent cuts in the allocation by the new Government. However, there is a number of non-infrastructure measures contained in the AQAP which are not being resourced and are not being delivered. In view of the inability of the current Action Plan to deliver the air quality Objectives, and the need to align it with Climate Change strategy, there is a clear need to review and update this statutory document.

The next Local Transport Plan ("LTP-3") is currently under development, with the process of selecting and evaluating options under way. Again, the AQAP will be integrated with the LTP.

In view of the inadequacy of the current Air Quality Action Plan, a study was commissioned from the Transport Research Laboratory (TRL) in 2009 to examine good practice, evaluate available options and develop an evidence-based package of interventions which would in large measure achieve compliance with the statutory Air Quality Objectives. (*Revised Air Quality Action Plan Interventions, Savage, A., Turpin, K., Price, J,* TRL, 2009.) A wide range of options is analysed in the Report and the final recommendation is for an integrated package of measures including an out-of-City freight hub; a dedicated freight-only corridor into the City and a Low Emission Zone (LEZ) incorporating the City centre within the Inner Ring Road.

It should be emphasised that this deliverable does not represent a realistic agenda for the content of the next LTP. The political, legal and economic conditions are simply not in place at present and the ultimate LTP Preferred Package

is clearly going to be subject to extremely heavy funding constraints, given the state of the public finances. The challenge is going to be to reconcile the current, bleak economic reality with the long-term need to develop and implement radical interventions to meet Air Quality (and carbon) targets.

However the DfT Transport Planning Guidance divides the process of developing the next LTP into 'Strategy' and 'Delivery' components: No specific time-frame is specified for 'Delivery' of LTP-3 but clearly, the delivery-plan component must be scheduled over relatively short periods of, say, three years to enable it to be managed in detail, operationally and financially. The 'Strategy' element must obviously inform the specific, short-term 'Delivery' element and must therefore precede it.

At the same time, the 'Strategy' component could extend over a much longer time scale than that set for individual projects, which have been developed and funded as part of the delivery programme. There could be an element of strategic vision, which carries transport policy much further in the same direction than anything which is committed in detail. That is to say, the Strategy element could also follow on from the Delivery element as a 'look ahead' to where this is leading us in the long term.

At the same time, the 'One Leicester' goals unfold over a 25-year time horizon and these should, in some way, influence the content of LTP-3. This time-scale is the realistic one for making significant and sufficient changes in emissions of both Air Quality and Climate pollutants from transport. The Air Quality Action Plan component of LTP-3 should reflect this.

4.4 Low Emission Strategies and Land Use Planning

Leicester City Council has signed up to the Low Emission Strategies Development Programme (LESDP): This initiative was launched by the Local Authorities which gained Beacon Status for Air Quality in 2008 and is endorsed and supported by DEFRA. The chosen theme is, '*Using the Land Use Planning system to reduce transport emissions*'. DEFRA has issued national guidance setting out the principles which have been developed. (DEFRA – *Low Emission Strategies – Using the Planning System to Reduce Transport Emissions – Good Practice Guidance* (January 2010). This sets out the aims of the approach as follows:

"The main benefit of low emission strategies is to reduce transport emissions by accelerating the uptake of low emission fuels and technologies in and around a new development, and to promote modal shift away from car travel. The approach may also contribute towards achieving local government performance targets; provide local economic benefits; help to streamline planning decisions; and contribute to wider sustainable development goals."

Funding was obtained from the DEFRA Air Quality Grant Scheme in 2009/10 to develop a package of policy tools and policies which would meet Leicester City Council's needs and priorities, while establishing good practice which is more widely transferrable.

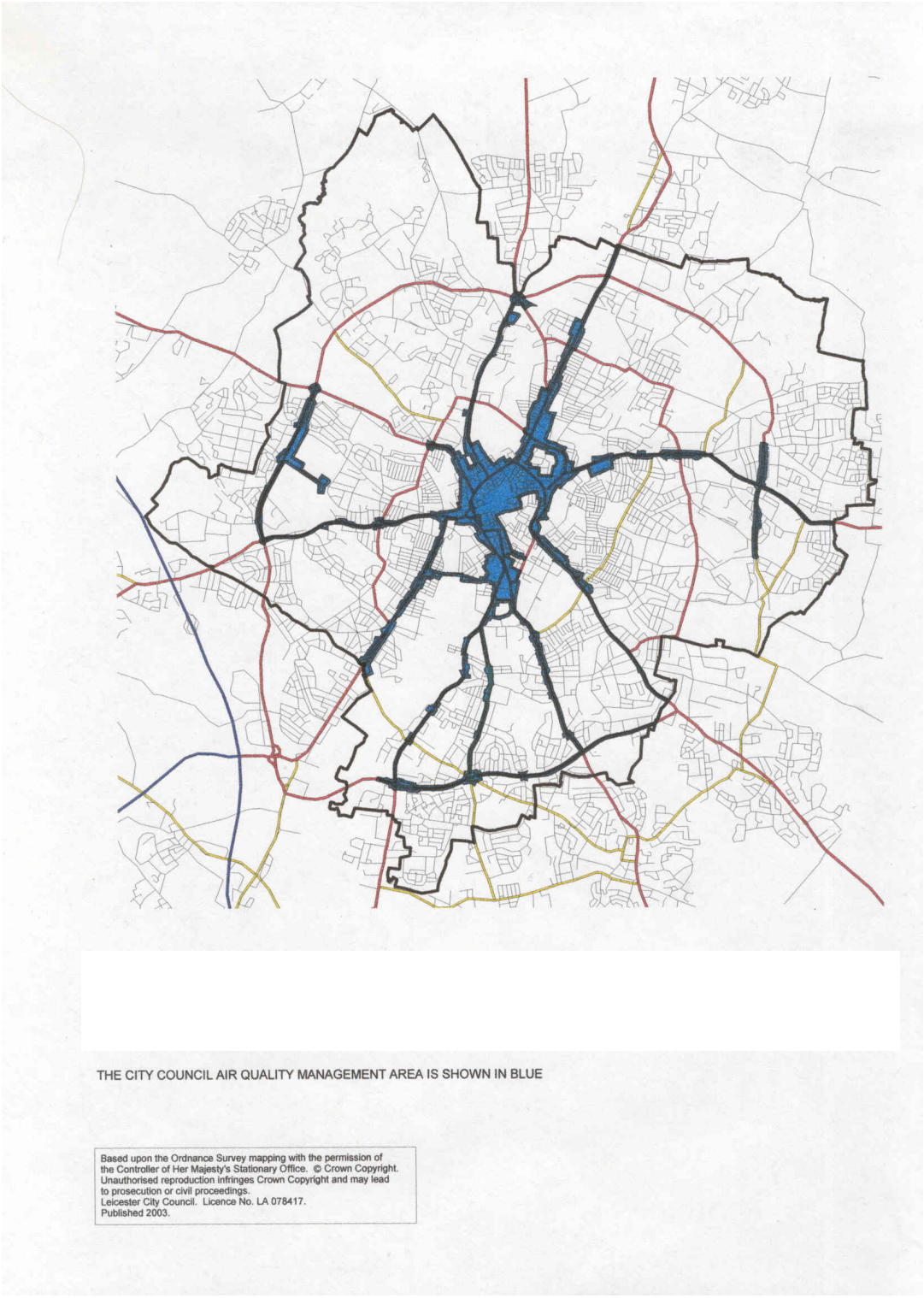
A project is actively in progress in partnership with the LESDP Team to develop policies on parking in general, and with particular reference to the New Business Quarter (NBQ) project. This seeks to reconcile the apparently conflicting requirements of controlling car use and car parking with those of attracting large prestige companies as occupiers to Leicester's NBQ, through innovative transport solutions.

4.5 Vehicle technology

Work is under way in Leicester City Council to evaluate and deploy alternative vehicle technologies. (It should be noted that various hybrids of available technologies also offer considerable advantages). Probably, the three most promising are:-

Technology	Advantages	Disadvantages	Current Status in Leicester
Battery Electric	No emissions at point of use. Technology rapidly improving. Suitable for short range uses in polluted urban areas.	Short range. Requires charging points. Carbon emissions from generation depend on extent to which renewable sources of energy are used. Even using renewables, there are large transmission losses from generating station to charging point. Terraced housing creates charging problems.	Limited demonstration work undertaken.
Hydrogen Fuel Cell	Zero harmful emissions at point of use. Technology rapidly developing.	Needs specialised refuelling facilities. Needs supply of hydrogen. Hydrogen prone to leak – careful design needed.	Letter of understanding signed by Leicester City Council to pilot 30 cars in 2012.
Biomethane	Highly carbon-negative. NOx and Particulate (Air Quality) emissions better than for diesel. Can be manufactured from waste by anaerobic digestion. Simultaneously solves difficult and costly waste disposal issues. Leicester City Council could theoretically manufacture from own waste arisings. Mature technology, used in many countries and increasingly in the UK. Manufacturing technology readily available. Can be sourced relatively locally. Vehicles now available from leading manufacturers on an OEM basis. Gas can be injected into and drawn from the gas grid.	Engine technology very similar to other internal combustion engines. UK fiscal and regulatory framework needs to catch up. City Council locked into a waste disposal contract which involves other processing methods. Proposal to build a large waste incinerator in the County.	Government funding available but long-term future of this clearly uncertain at present. Also funding doesn't cover full costs, leaving match funding to be found by Leicester City Council.

Fig. 1 Leicester's Air Quality Management Area (2000, extended in 2008)



THE CITY COUNCIL AIR QUALITY MANAGEMENT AREA IS SHOWN IN BLUE

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Published 2003.

APPENDIX 3

Air Quality Scrutiny Review – Survey of Good Practice

Notes on Members' and Officers' visit to Sheffield City Council, 10-02-11

The following is a summary of the key topics presented and discussed during this fact-finding visit:-

A. The Low Emission Strategies Approach (integrating climate and air quality policies).

This forms the core of Sheffield's AQAP. Key components include:

- Smarter Choices
- Public Transport Promotion
- Low Emissions Zone
- Low Emission Vehicles and Infrastructure
- Car Club
- Procurement of Goods and Services
- Working with Land Use Planners

LES includes both -

Regulatory mechanisms -

- Concentrating on emission performance of buses and taxis - Via the South Yorkshire PTE and the Traffic Regulation Commission. (Based on a study of cost-effective options by AEA Consultants).

- Controlling emissions from buses can achieve substantial progress towards meeting the Air Quality Objectives. Local emission standards for buses are required. National operators deploy their best buses where the strictest controls apply. E.g. the Oxford and Cambridge approaches.

Promotional mechanisms -

- 'Eco Stars' - private fleet recognition and branding.

- Green vehicle schemes – incentivising use through parking charges.

- 'Care4Air' social marketing campaigns.

B. Corporate Arrangements and Community Involvement

In order to support the Low Emission Strategies approach, there is an integrated Carbon Reduction and Air Quality Team within Sheffield City Council, which services and co-ordinates the following programmes:-

Sheffield has a 'Clean Air' Partnership and an Air Quality Forum involving all stakeholders, which raises issues and ultimately draws up the Air Quality Action Plan. Information is shared and consultation and feedback provided.

These issues are also considered by a joint Public Health Improvement Team. This feeds into a Joint Strategic Needs Assessment and then into a Joint Strategic Needs Programme

The 'Care4Air' social marketing programme mounts campaigns aimed at ordinary people and businesses. It involves various partners in the wider South Yorkshire area. This raises awareness and recognises good practice.

There is a strong emphasis on community engagement and empowerment, including a community air quality monitoring scheme supported by the City Council, which has actually influenced planning applications. The East End Quality of Life Initiative is an area programme including these themes.

Sheffield City Council runs a number of vehicles on compressed natural gas and on biomethane, in order to demonstrate –

- The air quality benefits of biomethane as a vehicle fuel;
- Reduced greenhouse gas emissions, directly and by avoiding incineration or landfill of waste;
- Cost savings of alternative fuels.

The includes co-operative projects by the waste collection contract holder.

The programme to develop and promote the use of low emission vehicles has a dedicated project manager.

A scheme to text messages about poor air quality to people with asthma and other relevant health issues and to give health management advice is being rolled out. This is a joint venture between Sheffield City Council and the National Health Service.

E. Davies
Pollution Manager

APPENDIX 4

Friends of the Earth is calling on the Government to help people affected by sudden rises in petrol prices.

We sympathise with motorists and, unfortunately, it looks like the days of cheap fuel are past us.

But there is plenty that the Government can do to **make fuel price shocks easier on all of us**:

- **Improve the alternatives to driving**
  Most car journeys are short. We need walking, cycling and public transport to be easier.
- **Encourage greener motoring**
  Improve the incentives that make people want to switch to cleaner, smarter cars that use less fuel.
- **Stand up to the motoring lobby**
  Ministers must stop pandering to these groups and make it clear that petrol prices will continue to rise.

If the Government adopted these measures, it would be **good for the economy - and the planet**.

Top tips for making your fuel go further

Pump up the tyres
For every 6 psi pressure a tyre is under-inflated fuel consumption can rise by 1 per cent.
Get in gear
Driving at 37 mph in third can use 25% more fuel than driving the same speed in fifth. Shift up at 2,500 rpm in a petrol car.
Get a map
According the AA getting lost wastes hundreds of thousands of gallons of fuel a year. Sat nav, phone apps or a good old road atlas could save you time, stress and cash.
Slow down
Get up to a third more out of your tank by sticking to 70 mph rather than 90 mph. And braking and accelerating gently can also improve fuel efficiency by up to 30%.
Switch off
Don't leave the engine running if you're stationary for more than 2 minutes.
And of course, think about **leaving the car at home if possible -** take the bus or car-share. And walking and cycling can save money, time and help keep you fit.