

## Air Quality Review and Assessment

# Air Quality Action Plan for Wycombe District Council

A report produced by Wycombe District Council

## FINAL PLAN



This document should be considered with specific reference to Stage 4 of the Review & Assessment for Air Quality

September 2002

written by **Ben Coakley**  
MSc(Lond.)BSc(Hons.)DIP IC

<b>Title</b>	Air Quality Review and Assessment – Action Plan for Wycombe District Council
	Wycombe District Council
<b>Report number</b>	AQPLAN 1.1
<b>Report status</b>	Unrestricted

<b><u>AUTHOR OF REPORT</u></b>	<b>FOR FURTHER INFORMATION (2003 Onwards)</b>
<u>BEN COAKLEY (Scientific Officer)</u> <u>WYCOMBE DISTRICT COUNCIL</u> <u>QUEEN VICTORIA ROAD</u> <u>HIGH WYCOMBE</u> <u>BUCKINGHAMSHIRE</u> <u>HP11 1BB</u> <u>01494 732060</u> <a href="mailto:bcoakley@chiltern.gov.uk">bcoakley@chiltern.gov.uk</a>	For Correspondence on the Action Plan or Review & Assessment for Wycombe after Christmas 2002 please contact:  Marco Lumbroso (Technical Officer, Pollution Control) Tel: 01494 421732 Email: <a href="mailto:Marco_lumbroso@wycombe.gov.uk">Marco_lumbroso@wycombe.gov.uk</a>

	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Author</b>	Ben Coakley		28 <sup>th</sup> Sept 2002
<b>Approved by</b>	Rod Marshall		28 <sup>th</sup> Sept 2002

This report is available for download (as pdf) at [www.wycombe.gov.uk/environment](http://www.wycombe.gov.uk/environment) in the Downloads Section.

**DEFRA Action Planning requirements compliance checklist**

This section has been introduced to indicate where the work expected by DEFRA has been undertaken in relation to our Action Plan.

<b>Work area</b>	<b>Included or considered?</b>	<b>Location within the report and comments</b>
<b>Process Adherence to Guidelines and Consideration of Policies</b>		
• Have Statutory Consultees been consulted?	yes	Section 2.4
• Have other LA departments been consulted?	yes	Section 2.4
• Statement of problem causing AQMA	yes	Chapter 2
• Have the principle sources of pollutants causing the exceedance been identified?	yes	Chapter 4
• Have other LA plans/policies been considered?	yes	Sections 2.5 & 3
• Has an options timescale been included?	yes	Chapter 2.3 & 13.2
• Have cost of options/plan been set out?	yes	Chapter 13.2
• Have impacts been assessed?	yes	Chapter 13.2
<b>Process - Checklist of Measures</b>		
• Have options been considered?	yes	Throughout & Chapter 6
• How many options have been considered?	8 major, 40 minor	Throughout
• Have transport impacts been assessed?	yes	Throughout
• Have air quality impacts been assessed - modelled or measured?	both	Throughout & refer to Stage 4
• Have Socio-economic impacts been assessed?	considered	Chapter 13.2
• Have other environmental impacts been assessed? (noise)	yes	Chapter 13.2
• Have costs been considered?	yes	Chapter 13.2
<b>Appropriateness and Proportionality</b>		
• Do measures seem appropriate to the problem?	yes	Throughout
• Have the measures been assessed?	yes	Chapter 6
• Are the measures likely to achieve the stated goal?	in some areas	Will require expansion of options 7 & 8 to achieve goal
• Have the wider impacts been appraised appropriately?	yes	Chapter 13.2
• Was the method of assessing costs appropriate?	yes	As outlined in NSCA Guidance
• Is it likely for LAQM objectives to be met?	in some areas	Will require expansion of options 7 & 8 to achieve goal
• Do the chosen measures comply with wider Government Policies	yes	Support and comply with wider policies
<b>Implementation</b>		
• Are measures realistic in light of the objective deadlines?	yes	Each action has a target
• Have responsibilities been assigned to the relevant party?	yes	Throughout
• Does the assigned party have the necessary powers?	yes/no	Yes for decided actions. No for options 1,3,4,5, (Highways Agency)
• Has financing been secured and who will pay.	yes	Funding has been secured for all decided measures.

# Executive Summary

The UK Government published its strategic policy framework for air quality management in 1995 establishing national strategies and policies on air quality which culminated in the Environment Act, 1995. The Air Quality Strategy provides a framework for air quality control through air quality management and air quality standards. These and other air quality standards<sup>1</sup> and their objectives<sup>2</sup> have been enacted through the Air Quality Regulations in 1997 and 2000. The Environment Act 1995 requires Local Authorities to undertake an air quality review. In areas where the air quality objective is not anticipated to be met, Local Authorities are required to establish Air Quality Management Areas (AQMA's) to improve air quality.

The first step in this process is to undertake a review of current and potential future air quality. A minimum of two air quality reviews are recommended in order to assess compliance with air quality objectives; one to assess air quality at the outset of the Air Quality Strategy and a second to be carried out towards the end of the policy timescale (2005).

The number of reviews necessary depends on the likelihood of achieving the objectives. Each of these two reviews is split into components. For the first round of air quality review and assessment, there are three components. The components are stages 1 to 3; Stage 4 and Action Plans. Stage 4 and Action Plans are normally completed in parallel.

Within this report we have considered various motorway and non-motorway options, taking into account factors such as: are we able to implement the option ourselves? cost, feasibility and non-air quality benefits.

Following this process, we have been able to define over 40 actions that Wycombe District Council will take in pursuit of the Air Quality Objectives.

Chapters 13 and 14 provide summaries of the actions that we will take and those responsible for implementing them. The action plan covers most Council areas and has already begun to increase awareness of air quality issues.

---

<sup>1</sup> Refers to standards recommended by the Expert Panel on Air Quality Standards. Recommended standards are set purely with regard to scientific and medical evidence on the effects of the particular pollutants on health, at levels at which risks to public health, including vulnerable groups, are very small or regarded as negligible.

<sup>2</sup> Refers to objectives in the Strategy for each of the eight pollutants. The objectives provide policy targets by outlining what should be achieved in the light of the air quality standards and other relevant factors and are expressed as a given ambient concentration to be achieved within a given timescale.

<b>1</b>	<b>STRUCTURE OF THE REPORT .....</b>	<b>7</b>
<b>2</b>	<b>INTRODUCTION &amp; PURPOSE OF THE ACTION PLAN .....</b>	<b>8</b>
2.1	Action Plans .....	9
2.2	Action Plan aims & objectives.....	9
2.3	Timescales .....	10
2.4	Consultees for the Action Plan and Stage 4 .....	12
2.4.1	Website public consultation	
2.5	Related plans/policies (existing or forthcoming) .....	13
2.5.1	Wycombe Transport Strategy March 2001 .....	13
2.5.2	Buckinghamshire Local Transport Plan 2001/2-2005/6.....	13
2.5.3	Multi Modal Studies (MMSs) .....	13
<b>3</b>	<b>THE COMMUNITY PLAN AND ITS INFLUENCE ON AIR QUALITY.....</b>	<b>15</b>
3.1	Community Plan objectives .....	16
3.2	Community Plan targets that feed into the Air Quality Action Plan.....	17
<b>4</b>	<b>PRINCIPAL SOURCES OF AIR POLLUTION.....</b>	<b>18</b>
4.1	Sources of air pollution in the WDC district.....	18
4.2	Sources of air pollution in the AQMA .....	18
<b>5</b>	<b>HEALTH IMPACTS OF AIR POLLUTION .....</b>	<b>20</b>
5.1	Nitrogen Oxides (No <sub>x</sub> ) .....	20
5.2	Particulates (PM <sub>10</sub> ).....	21
5.3	Carbon Monoxide (CO).....	21
<b>6</b>	<b>POSSIBILITIES FOR DIRECT ACTIONS TO IMPROVE AIR QUALITY WITHIN THE AQMA (THE HIGHWAYS AGENCY).....</b>	<b>23</b>
6.1	Source Apportionment:- .....	23
6.2	Direct actions within the AQMA in order of cost.....	23
6.2.1	Motorway Speed Strategy (OPTION 1).....	24
6.2.2	M40 Handy Cross layout changes (OPTION 2).....	26
6.2.3	Compulsory Purchase Order (OPTION 3) .....	28
6.2.4	Introduction of crawler lane between J3 and J4 (OPTION 4) .....	29
6.2.5	Reduce the general background concentrations (OPTION 5) .....	30
6.2.6	Reductions in Traffic Volume (OPTION 6).....	31

6.2.7	Additional Options (OPTIONS 7,8).....	32
<b>6.3</b>	<b>Assessment of the feasibilities of direct aqma actions .....</b>	<b>32</b>
<b>6.4</b>	<b>Further consideration of the motorway / options .....</b>	<b>35</b>
<b>7</b>	<b>ACTIONS TO REDUCE EMISSIONS FROM TRANSPORT SOURCES .....</b>	<b>36</b>
<b>7.1</b>	<b>Alternative fuels.....</b>	<b>36</b>
<b>7.2</b>	<b>Traffic reduction schemes.....</b>	<b>37</b>
<b>7.3</b>	<b>Traffic reduction and land use planning .....</b>	<b>37</b>
7.3.1	The Local Plan and its implications on Air Quality .....	37
7.3.2	Environmental Impact Assessments.....	39
<b>7.4</b>	<b>Workplace travel plans and School Travel Plans .....</b>	<b>40</b>
7.4.1	Full Travel Plans .....	40
7.4.2	Instant Travel Plan.....	40
7.4.3	WDC Green Transport Group (G8).....	40
7.4.4	Safer Routes to Schools .....	40
<b>7.5</b>	<b>Promoting Alternative Modes of Transport.....</b>	<b>42</b>
7.5.1	Bucks CarShare .....	42
7.5.2	Travel Groups.....	42
7.5.3	Wheels 2002 Project:- Free Travel on buses and trains to our leisure centres .....	43
7.5.4	Quality Bus Partnership.....	43
7.5.5	Taxis and Private Hire .....	43
7.5.6	The Promotion of Walking.....	44
7.5.7	Cycling and Cycle Routes .....	44
<b>7.6</b>	<b>Scheme targeting 'waiting vehicles with engines on' at schools throughout Buckinghamshire.....</b>	<b>45</b>
<b>7.7</b>	<b>Proactive initiative targeting specific smoky vehicles .....</b>	<b>46</b>
<b>8</b>	<b>MONITORING WITH REGARD TO THE AQMA.....</b>	<b>44</b>
<b>9</b>	<b>ACTIONS TO REDUCE EMISSIONS FROM INDUSTRIAL &amp; DOMESTIC SOURCES.....</b>	<b>49</b>
<b>9.1</b>	<b>Regulation of Part B Processes .....</b>	<b>49</b>
<b>9.2</b>	<b>Industrial smoke control.....</b>	<b>49</b>
<b>9.3</b>	<b>Statutory Nuisance legislation .....</b>	<b>49</b>
<b>9.4</b>	<b>Bonfires .....</b>	<b>50</b>
<b>9.5</b>	<b>Smokeless Zones .....</b>	<b>50</b>
<b>9.6</b>	<b>Energy &amp; Heating.....</b>	<b>51</b>
9.6.1	Home Insulation Schemes .....	51
<b>10</b>	<b>FUTURE PROJECTS .....</b>	<b>53</b>

10.1	Consideration of air quality on new major road schemes .....	53
10.2	ISO14001/EMAS .....	53
<b>11</b>	<b>THE PROMOTION OF AIR QUALITY ISSUES .....</b>	<b>54</b>
11.1	Provide up to date monitoring information to the public including alerts.....	54
11.2	Improve Public Information.....	54
11.2.1	Feedback 2001/2002.....	54
11.3	Commuter News .....	54
11.4	Don't Choke Britain publicity / car free days.....	55
11.5	WDC Environmental Policy group.....	55
11.6	Development of the <a href="#">Bucks Air Quality Management Group</a> .....	55
11.7	Development of BucksAirQuality.Net .....	55
11.7.1	An 'Air-Aware' email alert system .....	56
11.8	New Teaching packs for schools in the County on reducing air pollution. ....	56
11.9	Raising public awareness. ....	56
<b>12</b>	<b>RESPONSIBILITY MATRIX FOR KEY INITIATIVES AND ACTIONS .....</b>	<b>57</b>
<b>13</b>	<b>SUMMARY OF PROPOSALS TO REDUCE AIR POLLUTION WITH IMPACTS AND COSTS .....</b>	<b>59</b>
13.1	Summary of actions.....	59
13.2	Cost effectiveness and feasibility appraisal - all options & initiatives .....	62
13.3	Future actions .....	76
<b>14</b>	<b>DEPARTMENTAL ROLES AND THE ACTION PLAN -SUMMARY .....</b>	<b>77</b>
<b>15</b>	<b>SUPPORTING DOCUMENTS.....</b>	<b>79</b>

## **APPENDIX**

- 1 Acronyms and definitions**
- 2 The Revised Package of Measures and Action Plan for Handy Cross.**



# 1 Structure of the report

The report is structured as follows:

- < **Chapter 1** (this section) gives an overview of the work.
- < **Chapter 2** Introduction & purpose of the Action Plan.
- < **Chapter 3** The Community Plan and its influence on Air Quality.
- < **Chapter 4** Principal sources of air pollution in the District.
- < **Chapter 5** Health impacts of air pollution.
- < **Chapter 6** Possibilities for actions to improve air quality within the AQMA (Highways Agency and the M40 motorway).
- < **Chapter 7** Actions to reduce emissions from transport sources.
- < **Chapter 8** AQMA Monitoring.
- < **Chapter 9** Actions to reduce emissions from industrial & domestic sources
- < **Chapter 10** Future projects
- < **Chapter 11** The promotion of air quality issues
- < **Chapter 12** Responsibility matrix for initiatives and actions.
- < **Chapter 13** Summary of proposals to reduce air pollution with impacts and costs.
- < **Chapter 14** Summary departmental roles and the action plan
- < **Chapter 15** Supporting documents

## 2 INTRODUCTION & PURPOSE OF THE ACTION PLAN

Concern over the effects of modern day pollution, primarily from industrial and road transport sources, has led to the introduction of the EU Directive on Air Quality.

This has been adopted by the UK in the form of the Environment Act 1995 and has led to the Government's National Air Quality Strategies of 1997 and 2000.

These documents outline Government Policy in relation to 8 key pollutants:

- < Nitrogen Dioxide
- < PM<sub>10</sub> particulate
- < Benzene
- < 1,3-Butadiene
- < Lead
- < Sulphur Dioxide
- < Carbon Monoxide
- < Ozone

A separate strategy exists for Carbon Dioxide, which is known to have a significant effect on climate.

Although ozone is to be addressed at a National level, the Environment Act 1995 places a duty on local authorities to review and assess the other key pollutants in their area, against air quality standards and objectives laid down in the Air Quality Regulations 2000.

Wycombe District Council has completed a Stage 3 Air Quality Review and Assessment. The results of this indicated that exceedences of objectives for nitrogen dioxide (NO<sub>2</sub>) are likely along the M40 in the Wycombe District Council area, with particular problems at junctions between major road links. As a result of this air quality review and assessment, Wycombe District Council declared an air quality management area (AQMA) in 2001. A large map can be viewed at the Council Offices upon request.



**Fig1: - Wycombe DC Air Quality Management Order (1) Map**

We are now required to prepare an Air Quality Action Plan, as specified under Section 84 of the Environment Act (1995).

This report represents Wycombe District Councils Draft Air Quality Action Plan: A document setting out actions already being taken and new initiatives it intends to take in pursuit of the Governments air quality objectives.

## 2.1 ACTION PLANS

Local authorities are required to prepare a written Action Plan for an AQMA, setting out the actions they intend to take in pursuit of the air quality objectives. This has to include a timetable for implementing the plan.

The Action Plan should contain the scenarios that have been modelled in the Stage 4 review and assessment. It should contain a summary of the air quality improvements that might be possible for each of the scenarios identified. The Stage 4 provides the technical justification for the measures an authority includes in its Action Plan.

The Action Plan should also contain simple estimates of the costs and feasibility of implementing those scenarios. The Action Plan may also consider the non-health benefits of implementing scenarios in the Action Plan, for example, reductions in road traffic accident deaths as a result of road improvements that also reduce vehicle emissions.

The LA can then identify which scenario(s) offer the most cost-effective or cost-beneficial way of improving air quality.

## 2.2 ACTION PLAN AIMS & OBJECTIVES:

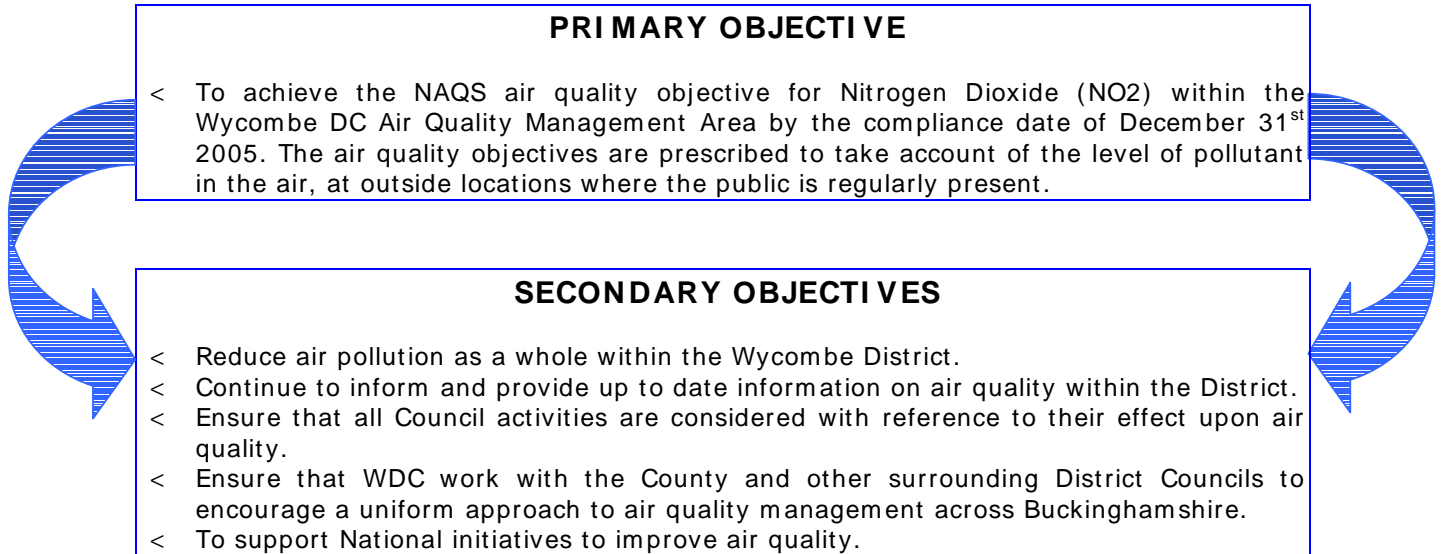
Air Quality Action Plans ultimately provide the mechanism by which local authorities in collaboration with national agencies and others, will state their intentions for working towards the air quality objectives through the use of powers they have available.

The overall aim of the Action Plan (AP) is to attempt to minimise the effects of air pollution on human health. The action plan should include all measures proposed by the Council to improve air quality and should be wider in geographical scope than the area of any air quality hotspot which may be its focus;

Due to the nature of our AQMA (Motorway only), we have divided our Action Plan into 2 general areas:

- < Direct actions upon the motorway (The Highways Agency and their contractor UK Highways, has full control over the M40 motorway).
- < Actions that will benefit the AQMA and also contribute to improving air quality throughout the whole district. These comprise of numerous projects and initiatives that we are able to feed into or implement ourselves. We also have more control over these actions and see them as ways to ensure that other areas of the District do not become AQMA's.

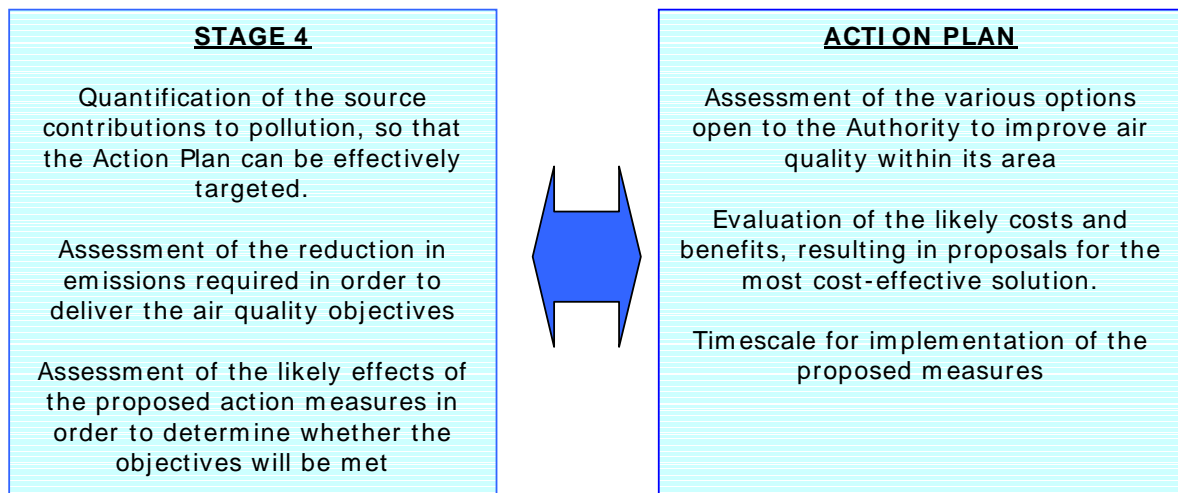
The objectives of Wycombes AP are therefore as follows: -



**2.3 TIMESCALES**

The Action Plan is a legal requirement. There is a legal timescale for action plans they should be produced 12-18 months after the designation of an Air Quality Management Area. Within the action plan itself realistic actions should be considered.

The Action Plan should be considered in parallel with the Stage 4 Report.



An effective Air Quality Action Plan relies heavily upon the integration of a variety of local government functions, as well as integration with regional plans and collaboration with external agencies.

We have already begun a number of the initiatives and projects and therefore will mention these in the report and may indicate progress to date.

Fig 2: - Key Task Matrix & Timetable

ACTION	REVIEW & ASSESSMENT KEY TASK MATRIX & TIMETABLE	Resources needed or cost effectiveness	Person/ Org. Responsible	Date to be achieved
1	Consultation and Introduction of Air Quality Management Action Plan(AP)	See specific sections	All (see consultation list below)	Nov 2002
2	Begin implementation of AP	See specific sections	All	Oct 2002 (some elements started)
3	Implement Stage 4 findings	Officer time	Pollution Unit	Complete by Jan 2003
4	<b>Expansion of AQMA as recommended in Stage 4</b>	Officer time	Pollution Unit	Complete by Jan 2003
5	Continue to provide accurate information on air pollution levels	Officer time	Pollution Unit	Immediate
6	Continue to increase awareness of air quality issues	Officer time	Pollution Unit/ Agenda 21	Immediate
7	<b>Second round of Review &amp; Assessments</b>	Statutory requirement	Pollution Unit	2003

## 2.4 CONSULTTEES FOR THE ACTION PLAN AND STAGE 4

- < General Public. Full Consultation available on the WDC Website for submitting comments.
- < Secretary of State
- < The Highways Agency
- < The Environment Agency
- < Buckinghamshire County Council - Neil Comley (Air Quality & Transport Strategy)
- < Buckinghamshire County Council - All
- < Chiltern District Council
- < South Bucks District Council
- < Aylesbury Vale District Council
- < Wokingham District Council
- < Royal Borough of Windsor & Maidenhead
- < South Oxfordshire District Council
- < CEAC (Corporate Environmental Advisory Centre)
- < Medical Director - Wycombe General Hospital
- < Faculty of Technology - Bucks Chilterns University
- < Chiltern & South Bucks PCT
- < Director of Health Improvement
- < Director of Public Health
- < Wycombe District Council - Control Of Pollution Unit
- < Wycombe District Council - Agenda 21/Environmental Policy Group
- < Wycombe District Council - Transport
- < Wycombe District Council - Planning
- < Wycombe District Council - Environmental Health

### 2.4.1 Website Public Consultation

Microsoft Internet Explorer provided by Chiltern District

Address: <http://www.wycombe.gov.uk/environment/default.html?pid=4242&step=4>

Comments Form

What is a PDF?

Name:

Address:

Organisation:

Purpose of business:

Telephone:

Email:

1. Do you feel that all aspects of air quality have been covered? If not, what do you suggest should be added?

2. Which aspect of the plan do you feel most concerned with?

3. Give us your general views

Send Request Clear the Form

Home News Council Info Council Services Transport & Travel Business Tourist Info Leisure Planning

© Wycombe District Council 2002 [ Translate this page. ] Chinese [ Translate Now ] [ Address Search ] [ Privacy Statement ]

**All comments from both Statutory and non statutory consultees received on the Draft Action Plan have been considered and incorporated where possible into the final Action Plan.**

## **2.5 RELATED PLANS/POLICIES (EXISTING OR FORTHCOMING)**

Wherever possible, air quality plans should support existing or forthcoming plans and policies within the District /County and vice versa. The following documents contain either air quality information or ways that we are working to try and reduce pollution.

These documents provide additional support to the Action Plan.

- < WDC Transport Strategy
- < Buckinghamshire Local Transport Plan 2001/2-2005/6
- < Community Plan 2002 (Agenda 21/ Sustainable development)
- < Multi Modal Studies (MMSs)

### **2.5.1 WYCOMBE TRANSPORT STRATEGY MARCH 2001**

The aims of the Strategy are to develop a better, more integrated transport system to tackle the problems of traffic congestion and pollution. The Strategy will increase the use of public transport, cycling and walking whilst limiting some of the bad effects of motor vehicles and maintaining a healthy economy. The measures will increase personal choice by improving travel alternatives for everyone.

The Strategy has been developed through close collaboration between Buckinghamshire County Council and Wycombe District Council, and is supported by the Government.

### **2.5.2 BUCKINGHAMSHIRE LOCAL TRANSPORT PLAN 2001/2-2005/6**

This local transport plan has been put together by the County Council in partnership with ourselves and the Parish Councils and other key stakeholders. Key aims include: Widening Travel Choice, Tackling the effects of traffic, Maintaining our transport network. A priority of the plan is to protect our environment.

Specific initiatives that are predicted to have a positive impact on air quality include: -

- < dynamic capacity signing for town center car parks
- < improvement of traffic management at Abbey Way gyratory
- < projects to ease traffic flow on local roads around Handy Cross.
- < extensions of the East West cycle route

### **2.5.3 MULTI MODAL STUDIES (MMSS)**

As the M40 is not within the District or County Council's control it is important to look at current and future studies that consider the M40 motorway. These studies consider the needs/ improvements required along major transport corridors in the South East with a view to identifying improvements for various types of transport (multimodal). The results of these studies will be fully considered in terms of impacts upon air quality and our AQMA.

The Council's Cabinet in September will be considering the Council's response to the public consultation by SEERA on a Regional Transport Strategy (RTS). This includes proposals to, rebalance transport investment in order to promote travel choice, manage demand, and to

promote investment in key transport schemes, such as Handy Cross. In parallel with work on development of the RTS, proposals have emerged from the round London Multi-Modal Study (MMS), "Orbit". These include proposals for additional capacity on the M25, backed by demand management measures, e.g. road tolls, and for a network of orbital and outer orbital coach services. Proposals are also due before the end of the year from the Thames Valley Multi-Modal Study. The outcome of consultation on both these studies will feed into the final version of the RTS.

These schemes will provide an important mechanism for national motorway improvements with regard to the air quality in our AQMA.



### 3 THE COMMUNITY PLAN AND ITS INFLUENCE ON AIR QUALITY



The Community Plan - a *living* document.

This Plan has been developed and prepared over the last 18 months by the Wycombe Partnership on behalf of, and in consultation with the people living and working in the District. It is our agenda for change over the next three years.

The Local Strategic Partnership, known as the Wycombe Partnership is made up of representatives from public, private and voluntary sector organisations who have come together to develop and work towards delivering the vision and aims outlined in this Plan which will help to improve the way we live, our communities and the District.

The Community Plan seeks to tackle issues in a sustainable way and it is therefore also being used as the Local Agenda 21 for the District.

Our front-line district councillors and officers are working with Town and Parish councils and/or direct with their communities. In many areas community statements, some with action plans, have been developed to identify the economic, social and environmental issues to be tackled locally.

The Wycombe Partnership brings together the public, private, community and voluntary sectors. Together we take an overview of the economic, social and **environmental aspects** of the District and are in a position to promote ways to improve the quality of life.

Many of the actions within our Community Plan will directly contribute to the Councils efforts to improve air quality. The objectives and targets shown below are have been selected from the community plan as those that will have a direct/ indirect affect upon air quality. They will also have other indirect benefits as indicated. Some of the targets listed below will also become targets for the AQ Action Plan and will act as an additional way of ensuring compliance.

**ACTION 1:** - In those instances where pollution and/or traffic issues have been identified, the Council intends to investigate how these issues can be tackled in partnership with local communities. In the course of time action plans will be prepared to tackle these issues where necessary.

We feel that the cross cutting measures below also form an integral part of the air quality action plan and are fundamental in the improvement of air quality within the AQMA and the district. These measures form part of our action plan.

### 3.1 COMMUNITY PLAN OBJECTIVES - ENVIRONMENT & TRANSPORTATION

#### **“Working towards a Healthy Environment”**

- 4.1 To help minimise environmental pollution
- 4.2 To encourage a more a more efficient use of raw materials and energy
- 4.5 To promote a healthy and safe environment
- 4.6 To maintain an effective and up-to-date Local Plan
- 4.7 To seek high quality design in all new developments to minimise environmental impact
- 4.8 To encourage and support waste reduction, re-use, composting and recycling
- 4.9 To stimulate the regeneration of communities

#### **"Transportation objectives"**

- 5.1 To ensure that new developments limit the need for motorised travel
- 5.2 To increase the number of journeys on public transport, on foot and by cycle, by making these safe and attractive alternatives to using the car
- 5.3 To raise the wider impact of the way we travel to promote the need to change
- 5.4 To support community transport facilities and schemes
- 5.6 To ensure that an adequate transport infrastructure exists to support current and proposed developments
- 5.7 To reduce congestion and journey times by improving traffic management and parking
- 5.8 To reduce the impact of vehicle congestion and pollution on our environment
- 5.9 To improve traffic routes that avoid town centres, while maintaining the balance in the rural parts of our District

### 3.2 COMMUNITY PLAN TARGETS THAT FEED INTO THE AIR QUALITY ACTION PLAN:

**To help achieve our Objectives we have set the following targets to be met by 31st March 2005:**

**E.2** Air quality, noise and pollution levels to be monitored so as not to exceed Government minimum standards.

**E.4** 2% per annum improvement in the energy efficiency of non-Council domestic dwellings.

**E.5** To facilitate one renewable energy project (this is a project that uses renewable energy sources such as solar or wind power instead of fossil fuels)

**E.7** To encourage community participation to help enhance the quality of our natural environment and biodiversity (Environment and Countryside Agencies)

**T.1** To increase the area served by public transport by 3%, particularly the areas in Accessibility Zones 1, 2 and 3 (these zones radiate from High Wycombe town and cover the bulk of the built up area where public transport is reasonably available) (Bucks County Council)

**T.2** To work to avoid peak hour journey times increasing (Bucks County Council)

**T.3** To progress the Local Transport Plan by completing a new interchange at High Wycombe Railway Station, and the pedestrianisation of Frogmoor (this is a plan that outlines improvements that will be made in our District between 1001 and 2006 to improve transportation) (Bucks County Council)

**T.4** To increase the number of people walking, cycling or taking public transport to work or school by 5% (Bucks County Council)

**T.5** To achieve a support level of 60% for the Local Transport Strategy (this is a plan that covers elements of the Local Transport Plan) (Bucks County Council)

**T.6** To reduce the forecast rate of traffic growth for the High Wycombe urban area by 50% [1.8% instead of 3.6%] (Bucks County Council)

**T.8** To increase the number of rural settlements served by non-conventional public transport services by 20% (Bucks County Council and Rural Transport Partnership)

**T.9** To progress the ring road development and improvements on the A4010 and Oxford Road junctions (as outlined in the Local Transport Strategy) (Bucks County Council)

**T.10** To produce a Green Travel Plan for Globe Park, Marlow, and then for all other major business parks.

The Community Plan and community planning process for Wycombe District is being co-ordinated by the Strategic Development Unit (SDU) within the Council. Following the production of a draft Community Plan and a formal consultation process, the Community Plan for Wycombe District was adopted by this Council and by the Local Strategic Partnership (LSP) in July 2002."

## 4 PRINCIPAL SOURCES OF AIR POLLUTION:-

### 4.1 SOURCES OF AIR POLLUTION IN THE WDC DISTRICT

- < Road Transport
- < Other Transport
- < Industry
- < Domestic
- < Aviation.

Road traffic is the major source of air pollution in the Wycombe District. Although more localised pollution also results from such sources as small industrial processes, construction and aviation; the overriding source of nitrogen dioxide is road vehicle emissions.

Measures in this Action Plan will primarily concentrate on reducing transport emissions as these form the greatest percentage in terms of source. However in places we will also consider other sources of air pollution that may have a point source impact or impact on areas outside of the AQMA.

### 4.2 SOURCES OF AIR POLLUTION IN THE AQMA

The source apportionment work in our Stage 4 identified emissions of oxides of nitrogen (NO<sub>x</sub>) from traffic on roads close to the AQMA as the important source where emissions might be reduced. Emissions of NO<sub>x</sub> from local industrial sources were trivial and the general background of NO<sub>x</sub> cannot be easily reduced except by national measures.

#### Fig 3: - Source Apportionment data

Sources apportionment of oxides of nitrogen (NO<sub>x</sub> as  $\mu\text{g}/\text{m}^3$  and then %) in areas in Wycombe with the greatest predicted exceedences of the annual mean NO<sub>2</sub> objective (in 2005)

Name of area modelled	Specific receptors considered	Background ( $\mu\text{g}/\text{m}^3$ )	Traffic - LDV ( $\mu\text{g}/\text{m}^3$ )	Traffic - HGV ( $\mu\text{g}/\text{m}^3$ )	Industrial ( $\mu\text{g}/\text{m}^3$ )	Total ( $\mu\text{g}/\text{m}^3$ )
<b>Junction 3 of the M40</b>	• Knaves Hollow	11.7	41.1	52.4	0.0	105.2
	• Barry Cottage	12.0	62.4	76.6	0.0	151.0
	• Moorlands	12.0	59.8	74.0	0.0	145.8
	• Le-Nyd	12.0	52.6	64.4	0.0	129.0
	• Mother Red Cap (PH) (on A40)	14.6	75.0	93.3	0.0	182.9
<b>East of Junction 5 of the M40 (Stokenchurch)</b>	• Slade Road	6.0	42.6	54.7	0.0	103.3
	• Marcourt Road	5.6	58.1	75.0	0.0	138.7
<b>M40 at Bolter End</b>	• Closest building	7.0	37.9	48.9	0.0	93.8
<b>M40 at Lane End</b>	• Sunnybank	7.3	57.4	74.1	0.0	138.8
	• Pentalan/Sunlock	7.7	53.5	69.1	0.0	130.3

<b>Junction 5 of the M40</b>	<ul style="list-style-type: none"> <li>Closest building</li> </ul>	6.1	44.3	55.7	0.0	106.0
------------------------------	--	-----	------	------	-----	-------

Name of area modelled	Specific receptors considered	Background	Traffic - LDV	Traffic - HGV	Industrial	Total
		(%)	(%)	(%)	(%)	(%)
<b>Junction 3 of the M40</b>	<ul style="list-style-type: none"> <li>Knaves Hollow</li> </ul>	11	39	50	0	100
	<ul style="list-style-type: none"> <li>Barry Cottage</li> </ul>	8	41	51	0	100
	<ul style="list-style-type: none"> <li>Moorlands</li> </ul>	8	41	51	0	100
	<ul style="list-style-type: none"> <li>Le-Nyd</li> </ul>	9	41	50	0	100
	<ul style="list-style-type: none"> <li>Mother Red Cap (PH) (on A40)</li> </ul>	8	41	51	0	100
<b>East of Junction 5 of the M40 (Stokenchurch)</b>	<ul style="list-style-type: none"> <li>Slade Road</li> </ul>	6	41	53	0	100
	<ul style="list-style-type: none"> <li>Marcourt Road</li> </ul>	4	42	54	0	100
<b>M40 at Bolter End</b>	<ul style="list-style-type: none"> <li>Closest building</li> </ul>	7	40	52	0	100
<b>M40 at Lane End</b>	<ul style="list-style-type: none"> <li>Sunnybank</li> </ul>	5	41	53	0	100
	<ul style="list-style-type: none"> <li>Pentalan/Sunlock</li> </ul>	6	41	53	0	100
<b>Junction 5 of the M40</b>	<ul style="list-style-type: none"> <li>Closest building</li> </ul>	6	42	53	0	100
<b>M40 at former Booker Hospital site</b>	<ul style="list-style-type: none"> <li>Closest building</li> </ul>	7	41	52	0	100

An Nox to NO2 conversion factor may be used. Please look at LAQM.TG4(00) for further

#### Key findings of the source apportionment from stage 4 work

The HDVs (sum of HGVs and buses) on the M40 are contributing disproportionately to the concentrations of NO<sub>x</sub> – HDV accounts for only approximately 9% of the AADTF, but approximately 50% of the NO<sub>x</sub>.

So small reductions in the flow of HGV would make a big improvement in the NO<sub>x</sub> concentrations

## 5 HEALTH IMPACTS OF AIR POLLUTION

In the UK, air pollutants come from a range of sources. These include transport (with the bulk of transport related pollution coming from road transport), industry, energy production and use and natural sources.

The Government's Air Quality Strategy and The Expert Panel on Air Quality Standards (EPAQS) have identified 8 key pollutants:

- < Nitrogen Dioxide
- < PM<sup>10</sup> particulate
- < Benzene
- < 1,3-Butadiene
- < Lead
- < Sulphur Dioxide
- < Carbon Monoxide
  
- < Ozone (National)

In the Wycombe District AQMA, we are attempting to reduce the levels of nitrogen dioxide; however, most initiatives to reduce nitrogen dioxide will also have positive reductions on the other air pollutants such as particulates. We consider the health implications of the three main vehicle emission types below:

### 5.1 NITROGEN OXIDES (NO<sub>x</sub>)

Road Vehicles are responsible for over 50% of the emissions of nitrogen oxides (No<sub>x</sub>) in the UK.

Burning fossil fuels in air produces these oxides. Both nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) are produced, with nitric oxide being the major primary pollutant.

This is the first point in a complex series of chemical reactions, involving a range of other pollutants, including ozone. Together the two oxides are referred to as NO<sub>x</sub>. The concentration of the different elements of NO<sub>x</sub> will depend on the oxidising capacity of the local atmosphere.

Nitrogen dioxide has been identified as having a number of possible adverse health effects, focused around the respiratory system, in both asthmatic and non-asthmatic subjects. Short-term exposures can increase reactivity to allergens, such as pollen. In some individuals high levels of nitrogen dioxide can precipitate or exacerbate episodes of asthma. Exposure of children to nitrogen dioxide may increase the risk of respiratory infections and possibly lead to poorer lung function in later life.

## 5.2 PARTICULATES (PM<sub>10</sub>)

The composition, size, production, distribution, behaviour and specific effect of particulate matter in the air is a highly complex subject. Particles are produced both directly from such human activities as combustion and other processes (e.g. from brakes and tyres of vehicles) and from such natural activities as the weathering of soils. They are also produced as 'secondary particles' by chemical reactions in the air.

Particles arising by different processes have different properties. In health terms, one important property is the extent to which particles become deposited in the lungs. This in turn depends on a variety of factors, one of which is the size of the particle. Generally, small particles have more chance of reaching the deeper parts of the lungs. These are likely to pass through the nose and larynx and enter the chest. As a rule, particles produced from combustion and condensation tend to be 'fine' while those from mechanical processes tend to be 'coarse'

Associations between particle levels and a range of health outcomes have been identified. These include decreases in lung function, increases in respiratory symptoms and exacerbation of asthma. Because of the variation of individual thresholds within the population and the variability in personal exposure at a measured concentration, it may well not be possible to detect a measured concentration below which no one in the population will be affected.

## 5.3 CARBON MONOXIDE (CO)

Carbon monoxide is a colourless, odourless, tasteless gas that is slightly lighter than air.

It is well known as a poisonous gas produced by the incomplete combustion of fuel. It acts by combining with the haemoglobin in red blood cells and so reducing oxygen carriage by the blood. At levels below those which are lethal, this reduction in oxygen-carrying capacity can precipitate angina in those susceptible and reduce mental performance, resulting in confusion and reduced co-ordination.

**ACTION 2:** - We will collate health information <sup>1,2,3</sup> and begin mapping this on to our GIS system. We will then compare the relevant information to that of air quality hotspots and the AQMA and consider any links. To be completed by August 2004

- <sup>1</sup> Public Health Common Data Sets
- <sup>2</sup> Wycombe Primary Care Group Profile- Bucks Health Authority
- <sup>3</sup> Inequalities and Health in the South East Region



## 6 POSSIBILITIES FOR DIRECT ACTIONS TO IMPROVE AIR QUALITY WITHIN THE AQMA (THE HIGHWAYS AGENCY)

Of the pollutants in the UK Air Quality Strategy, exceedences are only predicted for the annual mean NO<sub>2</sub> objective in Wycombe. These exceedences are related to the levels of traffic:

- along the M40 corridor,

Including

- the region around the Handy Cross roundabout

Therefore, the scenarios that we have considered are designed to reduce emissions from these road links and junctions.

### 6.1 SOURCE APPORTIONMENT:-

See section 4.2

### 6.2 DIRECT ACTIONS WITHIN THE AQMA IN ORDER OF COST

#### Largest Expenditure



- 1 — Motorway Speed Strategy
- 2 — M40 Handy Cross layout changes
- 3 — Introduction of crawler lane between J3 and J4
- 4 — Compulsory Purchase Orders
- 5 — Reductions in Traffic Volume
- 6 — Reduce the general background concentrations
- 7 — Continue consultation with HA
- 8 — Actively support larger National / SE projects

#### Smallest Expenditure

## 6.2.1 Motorway Speed Strategy (OPTION 1)

### OBJECTIVES

To reduce emissions through speed regulation, rather than the flow of vehicles. To be implemented as either a blanket speed limit or a variable limit depending on traffic flow and time of day.

### CONTROL OF THIS OPTION

The Highways Agency

### NON AIR QUALITY IMPACTS

- < May reduce ambient noise levels
- < Likely to improve safety along the stretch of M40
- < Reduced fuel consumption
- < Possible increased journey times
- < Reduced Carbon Dioxide emissions
- < Economic consequences of altered journey times.

### COST EFFECTIVENESS

Will depend upon the actual strategy employed. Variable speed limits are expensive to implement and enforce. Blanket speed limit likely to be more cost effective but would still require effective enforcement.

### PERCEPTIONS

May be perceived as a restriction of freedom to travel and will only be effective where enforcement is undertaken and resources made available.

### OPTIONS

- < Reducing the average speed along the M40 from the currently assumed 112 kph (70 mph) to 96 kph (60 mph)
- < Reducing the average speed along the M40 from the currently assumed 112 kph (70 mph) to 80 kph (50 mph)

### STAGE 4 MODELLING RESULTS

These options were modelled using sophisticated modelling software and the detailed results can be found in our stage 4 report.

These reductions alone are not sufficient to meet annual mean NO<sub>2</sub> objective (in 2005) at Junction 3 of the M40, East of Junction 5 of the M40 (Stokenchurch) or at M40 at Lane End. However, they are sufficient at Bolter End, Junction 5 of the M40 and at the former Booker Hospital site

## COST & FEASIBILITY

The table below summarises the feasibility and costs of the options in a simple way. An overall rank (1 being the 'best' option) is given. This is a purely subjective judgement and should not be used to base policy decisions upon. The best options is one that might give the greatest improvement in concentrations of annual mean NO<sub>2</sub> for the lowest cost and be possible to implement.

Name of area modelled	Option(s) considered	Comments on feasibility and cost	Rank
<b>M40 Junction 3</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	3
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		2
<b>M40 Junction 5 (just East of Junction 5 at Stokenchurch)</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	3
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		2
<b>M40 at Bolter End</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	1
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		1
<b>M40 at Lane End</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	2
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		3
<b>Junction 5 of the M40</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	1
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		1
<b>M40 at former Booker Hospital site</b>	<ul style="list-style-type: none"> <li>Reducing speed limit to 96 kph</li> </ul>	WDC could not implement - would require Highways Agency approval	1
	<ul style="list-style-type: none"> <li>Reducing speed limit to 80 kph</li> </ul>		1

Options are given a rank of 1 if they allow the annual mean objective of NO<sub>2</sub> to be met.

## SUMMARY

- < May be the most effective way of reducing air pollution within the AQMA.
- < Dependent upon the Highways Agency.
- < This is the most expensive option.
- < Unlikely to take place unless part of a larger package of options or motorways strategy.

## 6.2.2 M40 Handy Cross layout changes (OPTION 2)

### OBJECTIVES

A proposed parking and coachway at the Handy Cross junction to try and reduce congestion. This scheme also involves an extensive new junction layout.



### CONTROL OF THIS OPTION

Highways Agency, County Council, Wycombe District Council

### NON AIR QUALITY IMPACTS

- < Improved traffic flow in the Handy Cross/ Cressex area
- < Likely to improve safety along the stretch of M40
- < Reduction of vehicle travel times.
- < Positive economic benefits with 'sister projects' running in parallel.

### PERCEPTIONS

May be perceived as a major benefit to this area.

### COST & FEASIBILITY

A cost assessment has already been undertaken for this project and also a feasibility study. This is a very large scheme and it will also provide many major benefits for the area.

The scheme has now received government approval and the estimated cost will be £9.7m. The scheme has previously suffered with some time setbacks. However, the Council is continuing to work closely and is pressing for the scheme to progress without any further delays.



## TIMETABLE

At the start of the year an outline timetable was suggested by the Highway Agency as follows:

- < January - March 2002 - Results from December traffic surveys put into a micro-simulation model to confirm scheme design and benefits
- < March 2002 - review scope for integration of HA scheme and coachway options
- < Summer 2002 - Development of scheme plans
- < Autumn 2002 - Public Exhibition on fully detailed scheme
- < Winter 2002/03 - Draft Orders Published
- < 2003 - Public Inquiry (if necessary)
- < 2005/06 - Work on major works at the junction

So far this timetable has been adhered to and there has been close working between representatives of the local Councils and the Highways Agency.

### Stage 4 comments

The new layout changes and/or proposed parking and coachway at the Handy Cross junction have not been modelled as the concentrations predicted at residential properties in the vicinity of the junction are already predicted to meet the annual mean NO<sub>2</sub> objective (in 2005).

Residential properties in the direct vicinity of the Handy Cross junction are sufficiently distant that changes in road geometry and flows are unlikely to cause any exceedences of the annual mean NO<sub>2</sub> objective. Handy Cross Farm is the only property close to the proposed parking/ coachway and this it is sufficiently far from any main road that NO<sub>2</sub> concentrations are at background levels.

However, it is felt that this scheme will play an important part of improving traffic flow in this large area of the AQMA. Knock on effects to reduce stop-start motion on the stretches of M40 approaching and departing from the Handy Cross roundabout. Air quality improvements should be noticed not only on this stretch of motorway but also on other major link roads in the area.

See APPENDIX 2 for the latest details of the Handy X scheme, in terms of short and long term operations.

### 6.2.3 Compulsory Purchase Order (OPTION 3)

#### OBJECTIVES

To remove specific exposure

#### CONTROL OF THIS OPTION

Central Government

#### NON AIR QUALITY IMPACTS

- < Socio- economic impacts
- < If other factors such as noise are evident, may be beneficial to residents
- < A selection of the properties within the AQMA are already empty.

#### PERCEPTIONS

May not wish to move from the current location.

#### COST & FEASIBILITY

Likely to be relatively good compared to option 1 (Motorway speed strategy). One off cost

#### SUMMARY & ADDITIONAL COMMENTS

Superficially an attractive option with one off cost implications. Could be less attractive if CPO is resented. Potential legal problems in executing CPO. Possible variation may be to defer CPO until properties come onto the market naturally.

The land around the Handy Cross section of the M40 is also constrained by local planning designation (Green belt, Areas of Outstanding Natural Beauty) and therefore land acquisition may prove more difficult in such a setting.

Stage 4 has indicated that owing to the new emission factors our current AQMA order (1) now requires expansion. This will increase the number of properties within the AQMA and therefore this option will become less attractive.

#### **6.2.4 Introduction of crawler lane between J3 and J4 (OPTION 4)**

Introduction of a crawler lane between J3 and J4 of the M40.

##### **STAGE 4 RESULTS/COMMENTS**

The introduction of a crawler lane between J3 and J4 of the M40 is likely to lead to higher NO<sub>2</sub> concentrations as it will bring HGVs closer to residential properties and increase the average speed of cars. As the average speed of the cars increases, this will also increase the quantity of NO<sub>x</sub> emitted per kilometre travelled.

##### **SUMMARY**

Following further consideration and stage 4 findings, the introduction of a crawler lane scenario is no longer recommended as an option to improve air quality.

### **6.25 Reduce the general background concentrations (OPTION 5)**

A general option that would apply to all the scenarios considered is to reduce the general background concentrations (i.e. concentrations over a scale of hundreds of metres) of NO<sub>x</sub>. For the Wycombe District, background concentrations of NO<sub>x</sub> are not atypically high, in comparison with other local authorities with broadly similar densities of industry and roads.

This background concentration of NO<sub>x</sub> is composed of a combination of very diluted distant sources (traffic and industry from many kilometres away) and more local sources (traffic in the region).

For Wycombe, attempting to reduce the general background of NO<sub>x</sub> is not really a practical option for the AQMA itself. This can only be achieved by national measures, for example, by introducing tighter measures on UK industrial emissions, or on vehicle emissions in general, or by limiting general traffic growth through fiscal measures. Reducing the general background concentrations would however still have a positive impact on air quality but not really reduce levels within the AQMA itself.



## 6.2.6 Reductions in Traffic Volume (OPTION 6)

### OBJECTIVES

To reduce overall emissions and thereby assist in improving ambient air quality

### CONTROL OF THIS OPTION

Highways Agency, County Council, Wycombe District Council,

### NON AIR QUALITY IMPACTS

- < May reduce ambient noise levels
- < Likely to improve safety along the stretch of M40
- < Displaced traffic may impact negatively upon other non motorway routes
- < Economic consequences of altered journey times.

### COST EFFECTIVENESS

Variable depending upon actual measures

### PERCEPTIONS:

May be perceived as a restriction of freedom to travel. However, may be positively perceived if the improvement is noticeable and availability of alternatives to the car are improved.

### COST & FEASIBILITY

No direct cost involved to us, as we would not implement this option ourselves. In terms of feasibility it would in practice be difficult to reduce the volume of traffic using the M40. The MMS's mentioned earlier promote the shift to alternative transport routes and the findings of these should be considered in detail.

### SUMMARY

If real reductions can be achieved this is likely to be an effective measure to achieve improved air quality improvements. Of particular importance is that it is concluded in our stage 4 that a reduction in %HGV would contribute to the largest improvements in Nox concentrations.

**6.2.7 Additional Options (OPTIONS 7,8)**

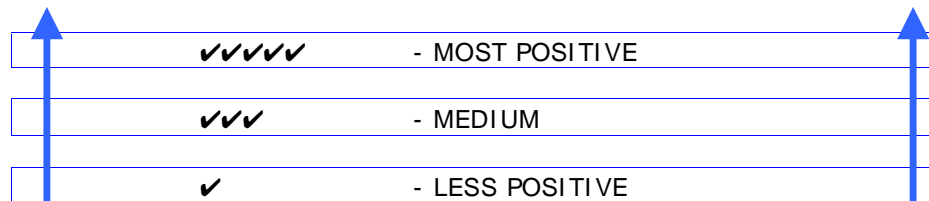
We have consulted with the Highways Agency throughout the Review & Assessment process and have met with them to discuss the AQMA and possibilities for future projects. Following this, Michele Hackman<sup>4</sup> (Highways Agency recommended we examine three trunk road and multi modal studies (at regional levels) that may provide us with useful information with regard to future changes in traffic flow in the WDC area. None of the studies seem to include specific estimates of the likely future changes of traffic flow along the M40. However, it is clear that reducing levels of pollution along the motorways has been given a higher priority than in the past, which in some cases was no consideration at all. Specific reference is given to the Handy Cross improvements and that it is expected that air quality will be improved slightly at properties within the vicinity<sup>4</sup>.

See section 2.5.3 for further information on MMS's

**6.3 ASSESSMENT OF THE FEASIBILITIES OF DIRECT AQMA ACTIONS:-**

As Government guidance suggests we have undertaken a *brief* appraisal to determine the feasibility, cost effectiveness and likely air quality improvement for the proposed actions within the District. The feasibility of each action was considered with relation to its likely social as well as economic impacts and the ease of implementation within District. The appraisal of the cost effectiveness assessed each action with reference to its likely direct and indirect costs for us. We took the view that where an action is already in place within the District, it is feasible and cost effective. Finally the likely air quality improvement was considered for each action.

**KEY TO MATRIX:**



<sup>4</sup> Stage 4 Review and Assessment (Chapter 4.5)

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
	<b>DIRECT AQMA OPTIONS</b>									
<b>Option 1</b>	Motorway Speed Strategy	✓	HIGHWAYS	✓✓✓✓	✓	Highways must implement	See Stage 4 & AP For exact reductions	Noise, Reduced CO2, Safety	NO	<b>7 at this stage</b>
<b>Option 2</b>	M40 Handy Cross layout changes	✓✓✓✓✓ (as already agreed)	HIGHWAYS	✓✓✓	✓✓✓✓ benefit to most links	2005/6 see program	Positive impact on area	Safety Economic	NO	<b>2</b>
<b>Option 3</b>	Compulsory Purchase Order	✓✓	HIGHWAYS	✓✓✓✓✓	✓	Unable to specify	No improvements	May wish to move anyway	NO	<b>6</b>
<b>Option 4</b>	Introduction of crawler lane between J3 and J4	✓✓	HIGHWAYS	NO LONGER VIABLE	NO LONGER VIABLE	N/A	N/A	N/A	N/A	<b>N/A</b>
<b>Option 5</b>	Reduce the general background concentrations	✓✓✓✓	WDC	✓	✓✓✓✓	Ongoing	Minimal in AQMA, better in District	Benefits for whole District	YES	<b>5</b>
<b>Option 6</b>	Reductions in Traffic Volume	✓✓✓✓	HIGHWAYS/ WDC	✓✓✓✓	✓✓✓✓	Ongoing	Would be very beneficial	Safety, Noise	LINKED	<b>4</b>
<b>Option 7</b>	Continue consultation with HA	✓✓✓✓✓	WDC	Currently Unable to specify	Currently Unable to specify	Ongoing	Unable to specify	Unable to specify	NO	<b>3</b>
<b>Option 8</b>	Actively support larger National / South East projects. E.g. Multi Modal Studies See Chapter 2.5 for examples	✓✓✓✓✓	WDC	Potential for large improvement	Potential for large improvement	Ongoing	beneficial	Unknown	LINKED	<b>1</b>

#### 6.4 FURTHER CONSIDERATION OF THE MOTORWAY / OPTIONS:

WDC's AQMA is located along the M40 motorway and as previously discussed we do not have any legal powers to undertake changes on the motorway network.

We have been in contact with the Highways Agency throughout the Review & Assessment process

Having balanced up the potential costs against improvements in air quality involved with an option such as the speed strategy (option 1), it is clear that we would find it difficult currently to justify implementing such measures. However, it is clear that an improvement could be made and therefore we will be entering into further communication with the Highways Agency on any future schemes that may improve air quality.

We will also continue our support of option 2 and work with them with the implementation of the Handy Cross improvements.

**Action A1:** - We will press for, and co-operate with Government/Bucks County Council, over implementation of improvements at Handy Cross

**Action A2:** - We will work with Highways Agency, neighbouring authorities and Bucks County Council in order to try and consider schemes in more detail and take note of findings from MMSs that reference air quality across the District and within the AQMA.

**Action A3:** - Following the small expansion of the current AQMA as recommended in Stage 4 we will meet with the Highways Agency again to discuss the possibilities of actions 1 & 6 and will be in a better position to consider option 3.

**Action A4:** - We will actively support the larger National and SouthEast schemes that may improve air quality along the motorway network and promote a modal shift to other forms of transport.

## 7 ACTIONS TO REDUCE EMISSIONS FROM TRANSPORT SOURCES

### 7.1 ALTERNATIVE FUELS

Alternatively fuelled vehicles that produce fewer emissions can make an important contribution to improving air quality.

Wycombe District Council is setting a good example by using LPG vehicles in its Environmental Services Division and also an LPG vehicle in Car Parks.

Although, the availability of green fuels is still fairly limited, LPG availability is increasing in Buckinghamshire.

The Energy Savings Trust 'Powershift' programme is helping to increase the uptake of clean vehicle technologies and provides funding towards the cost of conversion to LPG.

WDC does not have a large vehicle fleet and so we have looked to try and improve the use of cleaner vehicle technologies wherever we can. As a result we have just facilitated a change in the vehicles that are used for waste collection and 5 new refuse trucks are now based on cleaner Euro 3 engines with added particulate traps.

**ACTION 3:** - The Council and CEAC (Corporate Environmental Advisory Centre) will develop partnerships with business and major fleet operators to encourage the accelerated use of cleaner vehicle technologies and cleaner fuels, and promote improved maintenance and considerate and economical driving.

**ACTION 4:** - We will commission CEAC to survey companies in the District to investigate their existing use of alternative fuels and their attitude towards using these fuels in the future.

**ACTION 5:** - The Council will introduce a policy of replacing its own fleet with 'greener' types of vehicle (such as those with particulate traps) or LPG if suitable.

**ACTION 6:** - The Council will seek to improve the availability of cleaner fuels by encouraging new service stations to stock alternative fuels with reference to the results of the survey.

Wycombe District Council currently works with several 'partner' organisations in connection with environmental issues. An example of an exciting new alternative energy project is to be piloted over the next few years. TVENERGY, a renewable energy agency established with SAVE II European funding to work on behalf of the authorities in the Thames Valley region. This agency is working with the NFU on a project to encourage farmers to grow crops of rape or wheat to be used as an alternative fuel.

## 7.2 TRAFFIC REDUCTION SCHEMES

Under a business as usual scenario, traffic growth is still predicted to rise within the South East. Even with the progressive cleaning of vehicle emissions, unrestrained traffic growth could effectively negate air quality improvements by the sheer weight of numbers and increased travel mileage.

It is therefore vital to reduce traffic volumes in order to protect and sustain air quality and other environmental, social and economic improvements.

The Road Traffic Reduction Act 1998 requires the County Council as the local highways authority to assess traffic levels and make proposals to reduce levels or the rate of growth of traffic and publish these in a report. The Council has endorsed the concept of traffic reduction in the District and throughout Buckinghamshire. The Bucks Local Transport Plan will incorporate the mechanisms for achieving these targets.

**ACTION 7:** - The Council will support the County Council with its aim to achieve traffic reduction by improving the infrastructure needed to encourage sustainable travel and reduce unnecessary car use.

**ACTION 8:** - We will produce and distribute leaflets and advice to individual drivers on how emissions can be reduced through better driving practices and choice of vehicle/fuels. We will be utilising the new Environment Centre (WDC stakeholder) to help achieve this. We will achieve this by August 2003.

## 7.3 TRAFFIC REDUCTION AND LAND USE PLANNING

Planning decisions can have a significant, longer-term impact on travel behaviour and levels. The Council, through its function as a planning authority, can influence new development to ensure that it is designed and located so as to reduce the need to travel. It may also provide a range of attractive and convenient travel choices, encouraging alternatives to car use, in accordance with national planning policy.

### 7.3.1 The Local Plan and its implications on Air Quality

The integration of land use, transport and highways is key to the Council facilitating delivery of sustainability. Our Local Plan adopted July 1995 sets a number of guiding policies.

#### Local Plan Policy (1995) - Pollution & Noise

"Planning permission will not normally be granted for residential or other pollution/ noise sensitive development in areas which are, or are expected to become subject to unacceptable levels of noise, vibration, smells, fumes, smoke, soot, ash, dust or grit."

It was felt that the original policy, although useful, was no longer sufficient in light of work done by the council on Review & Assessment of Air Quality. It has been proposed that we will adopt the following policies and await the inspector's report in late 2002. The emerging

Local Plan (to 2011) has therefore been amended to take air quality into greater consideration in the planning process.

**New POLICY Guidance (to 2011): - Pollution / Air Quality**

"Having regard to the advice of the statutory pollution control authority, planning permission will not be granted for: - ii) Developments which would be at an unacceptable risk from existing or potential sources of pollution."

"Proposed development which would cause a significant deterioration in local air quality will NOT BE PERMITTED"

"Planning permission will not be granted for development which would have an unacceptable adverse impact on the amenities of nearby existing or proposed uses, by virtue of smells and other forms of atmospheric pollution"

"In an Air Quality Management Area which has been declared as a result of traffic or industry related pollutant, planning permission for development which will increase that pollutant will not be permitted"

**The Council will however have reference and assess against 'significance of impact' criteria and take a holistic viewpoint against socioeconomic need.**

**ACTION 9:** - We have made proposals for more specific policies on air quality for our Local Plan and we will adopt these policies following inspection. To be adopted by Oct 2004

Transport policies in the local plan that will also indirectly contribute to a reduction in air pollution include:

- T1 - Accessible Development and Sustainability
- T2 - Integrating Transport modes
- T3 - Developer Contributions
- T9 - Public Transport
- T10 - Buses
- T12 - Bourne End Disused Railway Line
- T18 - Green Travel Plans

Further information can be found in emerging Local Plan (to 2011): Chapter 7 , Transport.

**ACTION 10:** - Within the emerging Local Plan, Transport policies target a number of areas such as public transport, travel plans and accessibility for example. This will also contribute to improving air quality. We will adopt these policies following inspection by Oct 2004.



### 7.3.2 Environmental Impact Assessments

Few development proposals received by this Council are large enough for us to insist on the submission of an Environmental Impact Assessment. However, we can request that applicants provide information on, for example, the air quality implications of a development proposal. Any information provided would be a material planning consideration, although the Council cannot insist on this information being provided.

The Council would look for evidence that developers had taken appropriate steps to minimise the emissions associated with the development. All developments within the AQMA are required to have a Travel Plan if planning permission is granted.

The impacts of changes in land use planning practice tend by their nature to be felt only in the long-term. The proposals described here are designed to consolidate a trend in development and land use planning towards recognising air quality as an important consideration.

The Control of Pollution Unit is consulted on all planning applications where there is likely to be an impact on the environment. Consideration is then given to the potential impact upon air quality and planning may be refused if the Council is satisfied that it would seriously be detrimental to local air quality.

**ACTION 11:** - We will continue to work with the planning department with regard to new developments and ensure that air quality is taken into account when located in or close to the AQMA.

**ACTION 12:** - We will add the exact location of the AQMA to the 'site constraints database' used by the Planning Department to ensure that any developments in or close to the AQMA are flagged up for further consideration by August 2003.

**ACTION 13:** - The Council will continue to look for evidence that developers have taken appropriate steps to minimise any increases in air pollution regardless of their location. This will include an assessment of the air quality implications where applicable.

## 7.4 WORKPLACE TRAVEL PLANS AND SCHOOL TRAVEL PLANS

### 7.4.1 Full Travel Plans

WDC are lead partners in the establishment of the Cressex-Link, CentreLink and Globe Park/Thames Industrial Estate Travel Groups. These groups act to exchange best practice and promote more sustainable travel in business parks and other areas where businesses are concentrated. As well as encouraging businesses to engage in travel planning voluntarily, there is a range of circumstances where new development will necessitate the implication of a full Travel plan to minimise the impact of traffic at the site. The full details of when a Travel Plan is required are given in the Planning Procedure Note 05/02, (PPN 05/02).

**ACTION 14:** - We will encourage businesses through promotion and existing local travel groups to implement Travel Plans, and promote more sustainable travel to their staff. We will also ensure that new development meeting criteria set out in PPN 05/02 will implement effective Travel Plans.

### 7.4.2 Instant Travel Plan

A Travel Plan is a package of practical measures to encourage staff to choose suitable alternatives to the car, and to reduce the need to travel at all for their work. A plan should be tailored to a particular site and include a range of measures which will make a positive impact at that site. This 'Instant Travel Plan' aims to give smaller businesses the opportunity to play their part, without the resources and commitment a full Travel Plan may take.

**ACTION 15:** - We will encourage appropriate businesses, through promotion and existing local travel groups, to implement measures within the Instant Travel Plan.

### 7.4.3 WDC Green Transport Group (G3):-

Representatives from throughout the council are continuing to work on implementing travel reduction measures for staff at WDC. Improvements already achieved have included a pool cycle, shower facilities, bike storage and discounts on seasonal bus and train passes. We will continue to develop our own green travel plan, paying particular attention to flexible working and homeworking.

### 7.4.4 Safer Routes to Schools -

Throughout Wycombe a series of initiatives have been implemented to try and ease congestion and improve safety at schools in the morning and evening peaks. The scheme is run by the County Council and is fully supported by WDC.

Initiatives include walking in organised 'Crocodile Trails', traffic calming near schools, and park and walk as well as educational initiatives such as 'biking basics' and 'footsteps' that aim to give children the skills needed to walk and cycle to school in safety.

There are a number of examples within the Wycombe area and here is a list of some future actions:

- < **Marlow Schools** (Foxes Piece and Great Marlow)- The first meeting of a working group has taken place and an action plan is being developed.
- < **Hamilton School** - This scheme was the first in the county and has been highly successful. Currently maintenance of local footpaths is an issue and it has been highlighted that there is the need for enforcement of parking restrictions.
- < **Cressex Schools** - It was highlighted that there is a need for schools to input into the Corridors Study Public Consultation to ensure that their views are incorporated.
- < **Disraeli School** - The scheme is going well, but there is a need to ensure that pavements are clean and well lit to promote walking and proposals are put forward such as bollards, signs and railings to stop parents parking on the zig zag lines at the front of the school. It has also been suggested that there is an inclusion of Road Safety Education on the curriculum.
- < **Downley** - This project has recently received the support of the Parish Council, and a number of schemes have been suggested and investigated, including: implementation of a school bus, park and walk, traffic calming, and the need for high profile promotion of the scheme.

Work on the Safer Routes to School (SRS) initiative continues apace across the county, with comprehensive projects and Travel Plans in many of the schools in Wycombe District. Walk to School Week in May saw over 27,000 pupils across the county take part, and over 11 schools now have permanent walking "Crocodiles". The Buckinghamshire Public Service Agreement, which sets tough targets for performance in return for additional government funding, has meant additional funding for this and three more staff joining the SRS team to help individual schools implement measures on the ground.

The success of the Bucks SRS project has received national recognition recently with the County Council receiving the National Transport Award largely for work in this area





For further information on Safer Routes to Schools initiatives contact Catherine Greaves at Bucks County Council on (01296) 383957, or visit [www.buckscc.gov.uk](http://www.buckscc.gov.uk).

**ACTION 16:** - The Council will continue to provide advice, encouragement and support to businesses in the development of travel plans through the travel groups that meet at regular intervals

**ACTION 17:** - The Council will continue to extend the 'travel group' approach to other businesses in the district.

**ACTION 18:** - The Council will continue working with the County and local schools to provide encouragement and support to increasing the uptake of Safer Routes to Schools Schemes. Target to introduce an additional 5 Safer Routes to Schools projects by April 2004.

## 7.5 PROMOTING ALTERNATIVE MODES OF TRANSPORT

WDC has a community aim of increasing the proportion of residents walking, cycling or taking public transport to work or school by 5% (Shared Bucks CC Local Public Service Agreement). Key activities include: -

### 7.5.1 Bucks CarShare:

Bucks CarShare is a free-to-use service that aims to match potential car sharers across the county. For security, potential car sharers are put in touch via their work contact details. The actual arrangements, for example how often to share and what radio station to listen to etc, are left up to the individuals concerned. There is no obligation to start or continue an arrangement if either party doesn't wish to. The administration of Bucks CarShare is funded by the County Council and promoted widely by both WDC and the County Councils via extensive media and direct approach campaigns.

Email: - [buckscarshare@btconnect.com](mailto:buckscarshare@btconnect.com)

Website: - [www.buckscarshare.co.uk](http://www.buckscarshare.co.uk)

**ACTION 19:** - The Council will continue to give its full backing and support to the Bucks Carshare scheme. Target to increase sign-up to Car Share Scheme to 350 by April 2004.

### 7.5.2 Travel Groups

There are currently three major travel groups developed in Wycombe District: Cressex-Link, based around the Cressex business park nr Handy Cross; CentreLink for High Wycombe Town Centre and the Globe Park/Thames Industrial Estate group in Marlow.

These groups meet three or four times a year and members report back to their own organisations as well as inputting directly to the local authorities on transport provision. From marketing and promotional campaigns for initiatives such as Bucks CarShare, through to consultation on major infrastructure changes such as the proposed improvements to the A4155/A404 Junction at Marlow, these groups form a vital role in local and even regional transport strategies. Indeed, the Cressex-Link group is recognised as a major influence in travel thinking by the Highways Agency's report on the future of Handy Cross.

Current activities that the groups are involved include a comprehensive Shopping and Travel Guide leaflet for High Wycombe Town Centre and an employees shuttle bus service from the train station. Future projects include a proposed lunchtime shopper bus for Globe Park and the development of a travel discount card for group and their employees.

**ACTION 20:** - The Council will continue to support the Wycombe District Travel Groups.

### **7.5.3      Wheels 2002 Project:- Free Travel on buses and trains to our leisure centres**

The Council aims to encourage the use of public transport to its leisure centres. By catching a bus or train to Wycombe, Marlow or Princes Risborough Leisure centres and then presenting the travel ticket, a full refund of the fare\* may be claimed, when paying for an activity. This also allows for greater accessibility to our leisure facilities and promotes increased use of the facilities.

\* Travel restricted to journeys within Wycombe District.

**ACTION 21:** - The Council will continue to support the Wheels 2002 Project.

### **7.5.4      Quality Bus Partnership.**

The County Council has targets for patronage growth for buses and we will support further quality bus partnerships.

We also aim to negotiate improved bus service packages as part of major developments.

**ACTION 22:** - The Council will work with the County Council to encourage meeting the PSA targets for bus reliability, and encourage further QBP.

### **7.5.5      Taxis and Private Hire**

We intend to make a reduction in the vehicle licence fee for those taxis and private hire vehicles that are converted to run on LPG fuels. This reduction will be in the order of 25%.

Grants are also available to help with the cost of converting. To receive the reduction, the conversion **must be undertaken at a facility as recommended by the Powershift programme and LPG GAS Association, by prior agreement with WDC.**

**ACTION 23:** - The Council will promote the uptake of LPG by offering a reduction of 25% in Private Hire and Hackney Carriage vehicle licence fees upon the conversion to LPG fuel.

### 7.5.6 The Promotion of Walking

Southern Buckinghamshire Pilot Walking Project:

The high prevalence of physical inactivity in the population and its strong association with increased risk of illness make trying to get more people to do exercise a public priority. Walking offers advantages over other forms of exercise in that it can be conducted almost anywhere, does not generally require special equipment or clothing, and for the most part can be undertaken without specialist supervision. The financial costs of increasing physical activity via walking programmes, to both us and to the individual should therefore be minimal.

A major outcome of the project is that it is hoped that we may be able to influence the 'habits' of people and try to reduce the reliance upon the car for small trips where it may actually be possible to walk.

Further details available upon request from Sheila Davies (Health Promotion, WDC)

**ACTION 24:-** The Council will positively feed into the development of the Southern Buckinghamshire Pilot Walking Project.

### 7.5.7 Cycling and Cycle Routes

Wycombe District Council works closely with Buckinghamshire County Council who, as the Highway Authority, is responsible for development and implementation of the cycling strategy.

In addition, Wycombe District Council is working on a programme of new cycle rack installation, and has already installed new racks at:

- < Rye Swimming Pool
- < High Wycombe Sports Centre
- < High Wycombe Library
- < Park Parade, Hazelmere
- < Rose Avenue, Tylers Green
- < Desborough Road
- < Kings Centre, Desborough Road
- < High Street, High Wycombe
- < Church Street, High Wycombe
- < Pauls Row, High Wycombe

Wycombe District Council also works closely with Sustrans, the national cycling charity, in bringing forward initiatives at a local level. We are also involved in the Wycombe Cycle Liaison Group, which has a consultative role in considering proposals from the County Council.

An extensive network of cycle routes is planned in Wycombe to beyond 2006. The first routes, already developed, are the East-West Cycle Route, running along the valley from one side of the town to the other, and a spur route from Holmers Farm (near John Lewis) to join the east-West route.

Like walking, cycling is a very clean (and healthy) mode of transport and can make a contribution to improving air quality. The Council is therefore keen to see more people cycling safely and responsibly, on the carriageway. It encourages cycling through: a programme of installing cycle parking wherever there is demand and providing cycle lanes where this can be done in a way that is sensitive to the environment.

The Council's efforts to make cycling safe and convenient have been progressing for some time, and would no doubt have continued even if there were no air quality problems in the District or County. We cannot expect cycling to replace the most polluting vehicles (heavy goods vehicles, buses, and so on) but even a small transfer from cars to bicycles will lead to at least some reduction in emissions.

Further information can be obtained via: [www.buckscc.gov.uk](http://www.buckscc.gov.uk)

**ACTION 25:** - The Council will positively feed into the development the proposed cycle routes and work with the County Council to expand the network.

## **7.6 IMPLEMENT NEW SCHEME TARGETING 'WAITING VEHICLES WITH ENGINES ON' AT SCHOOLS THROUGHOUT BUCKINGHAMSHIRE**

Designed by Wycombe District Council and funded by the County Council this brand new scheme in association with the 'Safe Routes to School' project will target the areas at the front of schools where it is common place for parents to drop off their children. The aim of this scheme is to try and reduce vehicle emissions in these areas by reducing the number of vehicles that leave their engines running. A publicity campaign will also raise awareness in the school itself and in surrounding areas.



The new 'Cut your Engine' sign.

**ACTION 26:** WDC will begin to roll out this project by January 2003. Specific attention will be given to schools close to the AQMA and those that have the worst problem.

(The scheme will be undertaken in parallel to **section 11.8** - School Air Quality teaching packs)

## 7.7 PROACTIVE INITIATIVE TARGETING SPECIFIC SMOKY VEHICLES :

Diesel vehicles that are old or poorly maintained are prone to producing large quantities of thick, heavy dark smoke. This smoke can make buildings dirty and also increases the amount of small particles in the air. These particles are small enough to be breathed into the lungs and are linked to respiratory problems such as asthma.

We do not currently have direct powers to deal with these smoky vehicles, however, the Government's Vehicle Inspectorate does. If you wish to report a smoky diesel (lorry, bus, coach or other public service vehicle) then certain essential information is needed. It is not possible for the report to be followed up without full details.



To make a report the following details are required:

- < Vehicle registration number
- < Type of vehicle (be as specific as possible)
- < Date smoky vehicle seen
- < Time smoky vehicle seen
- < Exact location vehicle was seen (road and town)
- < Name of vehicle's operator (company or owner)

You may telephone the Vehicle Inspectorate on **0208 665 0885**. You will also be asked to give your own name and address (to help prevent malicious reports). This will be kept in confidence.

**ACTION 27:** We will expand our promotion of the reporting of smoky vehicles with the introduction of new vehicle emission watch leaflets with freepost envelopes.

## **FINANCIAL RESOURCES FOR INITIATIVES**

Expenditure for these initiatives have already been agreed for this year and additional funds are not thought to be required at this time. This matter will be reviewed annually.

## 8 INCREASE THE MONITORING UNDERTAKEN WITH REGARD TO THE AQMA

WDC was one of the first Councils in the South East to install a continuous monitor in its district to measure air pollution.

We also have a comprehensive network of passive monitoring using No<sub>x</sub> tubes. Most are dual located and a control is in place at the continuous monitoring station.



Immediately following the declaration of the AQMA in 2002 we expanded our network of passive No<sub>x</sub> monitoring points to incorporate 4 additional points within the AQMA.

In addition, our Stages 3 and 4 indicate that it would be beneficial to provide long term continuous monitoring at a location within or near to the AQMA. It would be prudent to organise this as soon as possible in order to have data that may be used for the next round of review and assessments (2003).

**ACTION 28:** We will expand our monitoring network to incorporate a new continuous monitoring site for Nitrogen Dioxide, to be installed close or within the AQMA by August 2003.

## **9 ACTIONS TO REDUCE EMISSIONS FROM INDUSTRIAL & DOMESTIC SOURCES**

### **9.1 REGULATION OF PART B PROCESSES - ENVIRONMENTAL PROTECTION ACT 1990/ POLLUTION PREVENTION AND CONTROL ACT 1999.**

In 1990 the Environmental Protection Act (EPA) introduced new controls to a range of industrial processes with considerable pollution potential. Responsibility for industrial pollution control is split between agencies. The Environment Agency has responsibility for large scale industrial processes with significant polluting power, known as Part A processes, and smaller scale potentially polluting industries, or Part B processes, are regulated by Local Authorities. The regulation of industries by local authorities is shortly being changed from the EPA 1990 to that of the Pollution Prevention and Control Act 1999.

Wycombe DC currently authorises 55 Part B processes throughout the District. The authorisation requires the operator to comply with set conditions which limits the substances emitted from the processes in accordance with the NAQS standards based on European Directives, and places them under a general obligation to use the "best available techniques" to prevent or minimise pollution.

**ACTION 29:-** We will continue to provide comprehensive control over Part B processes

### **9.2 INDUSTRIAL SMOKE CONTROL - CLEAN AIR ACT 1993**

WDC also control emissions from certain industrial processes or trade premises which fall outside the provisions of the EPA using the provisions of the Clean Air Act 1993 which includes powers to:

- < Prohibit black smoke from a chimney of any building (subject to certain permitted periods and exemptions).
- < Prohibit dark smoke from industrial or trade premises (subject to certain exemptions).
- < Require notification of installations of industrial furnaces.
- < Approve chimney heights of certain installations.

### **9.3 STATUTORY NUISANCE LEGISLATION - ENVIRONMENTAL PROTECTION ACT 1990**

The nuisance regime complements the more specific industrial pollution control regimes of the Clean Air Act 1993, the Environmental Protection Act 1990 and the Pollution Prevention and Control Act 1999. Local authorities are able to use it to deal with domestic as well as industrial emissions that, by definition, are prejudicial to health or a nuisance.

Those industrial processes that are not defined as Part A or B Processes under section 2(1) of the Environmental Protection Act 1990 can operate without authorisation but must ensure that their operations do not cause a statutory nuisance to those around them and base their actions on a concept known as "best practicable means".

Statutory nuisance can cover: smoke, fumes, gases, dust, steam and smells emitted from a premises, and where a local authority is satisfied that a statutory nuisance exists the

Council's enforcement officers have a duty to take enforcement action requiring the abatement of the nuisance.

**ACTION 30:** - The Council will continue investigate complaints about nuisance, monitor air quality and relate this to the air quality strategy.

## 9.4 BONFIRES

Bonfires that produce visible smoke can contribute to increasing the levels of air pollution. Fine particles (PM<sub>10</sub>) as well as larger particles and other pollutants such as dioxins may also be produced if plastics or rubber are burnt. Where bonfires cause a statutory nuisance enforcement action can be taken under the Environmental Protection Act 1990.

The council promotes composting as an alternative method of disposal of garden waste. Schemes to encourage home, community and centralised composting have been set up to help reduce the need for bonfires.

Composting units are available to anyone in the district, at discounted rates, that are able to take a significant amount of compostible waste, which may have been otherwise burnt or placed in the domestic refuse.

**ACTION 31:** Improved information and advice to residents and companies in the area about problems caused by bonfires, and enforcement action for persistent offenders who break the Clean Air Act and Environmental Protection Act. We will also encourage residents to compost waste rather than burning it on bonfires.

## 9.5 SMOKELESS ZONES

The main body of Wycombe Town is a smoke control area, as defined by the Clean Air Act 1956, which means that domestic premises with open fireplaces must only burn smokeless fuel. In a smoke control area it is an offence to emit smoke from any chimney. It is also an offence to acquire for use or sale any fuel, other than an authorised smokeless fuel, unless it is to be burned on a fireplace exempted from the smoke control order.

**ACTION 32:** - We will continue to ensure that only authorised fuels are used in the smoke control area.

## 9.6 ENERGY/HEATING

Buildings contribute directly and indirectly to the consumption of energy and resources, to environmental pollution from materials used in construction (including the use of raw materials), to energy consumed from heating, lighting and ventilation, and to waste generated during construction and demolition. Energy efficient buildings and those incorporating sustainable design principles are now recognised as likely to provide healthier and more comfortable conditions.

We measure the improvement of energy efficiency in the housing in the district and report on this each year (HECA Report).

Building Control already encourage building designs and materials that have the least environmental impact as well as encouraging renewable energy.

WDC is currently in the process of writing an Affordable Warmth Strategy to improve the energy efficiency. We also monitor the Council's energy use in all of its buildings and car parks.

We promote energy efficiency to the general public in a number of ways through promotions (Displays at local shows and in partnership with local DIY stores), Home Energy Surveys (Individual advice given to householders) and centrally funded Energy Saving Schemes.

We also intend to consider an environmental appraisal of procurement, which among other things will consider energy efficiency as a key item.

**ACTION 33:** - The Council already has a policy in its Local Plan to allow the development of renewable energy projects. It will work with TV Energy to encourage 1 renewable energy project in the district by March 2003.

**ACTION 34:** - The Council will continue to monitor the efficiency of its housing stock and council buildings using the standard assessment procedure (SAP) and try to improve the rating wherever possible.

**ACTION 35:** - The Council will develop an Affordable Warmth Strategy and begin implementation by Sept 2004 to increase energy efficiency in households on low incomes and so reduce CO<sub>2</sub> emissions.

**ACTION 36:** We will introduce an Environmental Appraisal as part of our procurement procedure and begin implementation of it by December 2002.

### 9.6.1 Home Insulation Schemes

These aim to improve energy efficiency in homes, reducing the need to burn fuels that create emissions and increase air pollution.

**ACTION 37:** - We will apply for Grant funding for an energy efficiency project in association with the new Environment Centre. Target date December 2003.

**ACTION 38:** - In association with TVENERGY we will produce a 'sustainable design guide', promoting high levels of energy efficiency. Target date January 2003.

## 10 FUTURE PROJECTS

### 10.1 MAJOR COUNTY TRAFFIC SCHEMES WILL CONSIDER AIR QUALITY BEFORE, DURING AND AFTER WORK WHEN LOCATED CLOSE TO THE AQMA.

It is clear that traffic schemes can have a major impact on air quality both to an immediate area and also knock on effects to the surrounding transport routes. Following consultation with the County Council it has been decided those traffic schemes, speed calming and other initiatives that may have a sufficient impact on the traffic flow or mix and therefore air quality will be passed to the Control of Pollution Unit for consideration. Any concerns that may arise will then be fed into the consultation process with other impacts such as noise. If air quality is considered an important factor, it is proposed that passive monitoring at that location will be undertaken and wherever possible actions to reduce air quality impacts will be included in the scheme.

### 10.2 ISO14001/EMAS

The Council is seeking accreditation in ISO14001 in all business units with a view to achieving overall accreditation in the Eco – management and audit scheme (EMAS), for the whole organisation.

This requires each business unit to manage its environmental impacts to achieve continual improvement in its environmental performance and with regard to the Council's Environmental Policy. This includes managing corporate environmental impacts such as staff transport and energy use. Objectives have been set for reduction in staff mileage as part of the Environmental Management System (EMS).

**ACTION 39:** - To achieve accreditation in ISO14001 in 4 business units by March 2003 and full accreditation in EMAS by March 2005.

## 11 THE PROMOTION OF AIR QUALITY ISSUES

### 11.1 PROVIDE UP TO DATE MONITORING INFORMATION TO THE PUBLIC INCLUDING ALERTS

We have within our Council Offices a 'real-time' air quality display that provides detailed but easily understood information on the current air quality within the District. Information is also in place to explain what it means and where to obtain further information.

### 11.2 IMPROVE PUBLIC INFORMATION

It is important that we provide information on air quality in a clear and accessible way. The popularity of the Internet increases every year and therefore we decided to provide a much larger range of information on our website.

Daily pollution levels can be seen quickly and easily as well as providing information on a range of air quality issues.



### 11.2.1 FEEDBACK 2001/2002

We have and will continue to expand the air quality site and improve it where possible. Since its implementation it has been voted the number 1 Local Authority air quality website in the UK by an Environmental Journal in 2001/2002.

### 11.3 COMMUTER NEWS

Is a biannual publication sent to all businesses and other relevant organisations in the Wycombe District that promotes sustainable travel and gives news of transport issues affecting the district, including regular updates on air quality.



#### 11.4 DONT CHOKE BRITAIN PUBLICITY / CAR FREE DAYS

The Council takes part in the annual Don't Choke Britain Campaign. Green transport issues are promoted internally to staff by encouraging use of alternatives to the car through such means as competitions to save the most car miles, bikers breakfasts, and articles in the staff newsletter.

Publicity has been sought externally through various means such as workshops in schools, and challenging the local newspaper to a bike and car race to work. We will continue to support such initiatives in the future.

#### 11.5 WDC ENVIRONMENTAL POLICY GROUP

The Council has a group of officers who work together to promote environmental sustainability both within the Council and in the district. They take part in a number of roadshows held at local events, which promote various issues such as composting and air quality. Links between air quality and health have been demonstrated in the past by encouraging residents to blow into a 'Smokealyser' and assess any links between the air quality in the area in which they live and the levels of carbon monoxide in their exhaled air.

#### 11.6 DEVELOPMENT OF THE BUCKS AIR QUALITY MANAGEMENT GROUP



Representatives from each District, the County Council and the Health Authority formed a working group in 2000 to help co-ordinate air quality management in Bucks. This collaboration not only reflects the important role that all local authorities in Buckinghamshire play in protecting the environment, but also signals the closer working together on air quality issues for the future. The group has developed very successfully over the last 2 years and will be continue to promote air quality initiatives across Bucks.

#### 11.7 DEVELOPMENT OF BUCKSAIRQUALITY.NET

In a joint initiative, the District councils in Buckinghamshire have joined force with Bucks County Council to develop a new Air Quality Information website for use by residents of the County:

**Our main objectives for setting up the site were as follows: -**

- < An interesting and informative site.
- < Draw together in one location information held by the District Councils on Air Quality.
- < Increase public awareness of both local and Countywide Air Pollution / Quality issues.
- < Forge closer links within the County.
- < Identify deficiencies in the air quality regime within Bucks as a whole.
- < Provide a 'data' source for air quality past and present for interested people and environmental education.



### 11.7.1 An 'Air-Aware' email alert system

A pioneering 'Air-Aware' email alert system has been designed and is currently on trial at [WWW.BUCKSAIRQUALITY.NET](http://WWW.BUCKSAIRQUALITY.NET), which provides an email warning system to the public if air pollution levels are high. This will then allow people to take appropriate precautions for avoidance of the air pollution.

For those without email, a telephone information service for daily air quality is also available by calling: [FREEPHONE 0800 55 66 77](tel:0800556677)

### 11.8 NEW TEACHING PACKS FOR SCHOOLS IN THE COUNTY ON REDUCING AIR POLLUTION.

In association with the new pollution prevention signs at schools, we intend to increase the awareness and understanding of air quality and environmental issues by designing and circulating new teaching packs. These will be distributed to each school in the District (and County) and interactive demonstration/ talks are also available upon request. A number of successful classes occurred during 2001/2002 at local primary schools. **This scheme will be implemented in parallel with Action 26.**

### 11.9 RAISING PUBLIC AWARENESS.

Local campaigns to promote awareness on environmental pollution from vehicles and alternatives will continue to be expanded. Working with WDC's Environmental Co-Ordinator we will attend local events and promote and provide free advice on air quality issues.

## 12 Responsibility matrix for key initiatives and actions

<b>BUCKS COUNTY COUNCIL</b>	<b>WDC PLANNING POLICY &amp; TRANSPORT</b>	<b>WDC POLLUTION CONTROL, ENVIRONMENTAL HEALTH &amp; AGENDA 21</b>	<b>WDC DEVELOPMENT CONTROL</b>	<b>BUCKS AIR QUALITY MANAGEMENT GROUP</b>
Local Transport Plan Public Transport Walking Cycling Parking Traffic Signalling Traffic Reduction Green Travel Plan Road Safety Travel Plans Safer Routes to Schools	Local Plan WDC Green Travel Plan Economic Development Biodiversity Business Travel Plans	Clean Air Acts Statutory Nuisance Local air quality management Review and assessment AQMA designation Action plan AQ assessments for planning Construction site control and enforcement Monitoring programme Health Promotion Information Education Research Energy Efficiency Sustainable Development Renewable Energy	Consideration of Environmental Impacts with regard to planning applications	Joint working across the County with regard to Air Quality Promotion of air quality issues Addition to Safer Routes to Schools schemes Teaching programmes BucksAirQuality.Net development and maintenance Liaison with outside bodies, the County and the Health Authority Consultation exercises
<b>Main Action Points</b>  <b>A1,A2,A4,18,19,22,25,</b>	<b>Main Action Points</b>  <b>A1, A2, A4, 2,6,7,10,14,15,16,17,18,19,20,21,22,25,35,36</b>	<b>Main Action Points</b>  <b>A1,A2, A3, 1,3,4,5,6,11,12,13,14,21,23,24,25,28,29,30,31,32,33,34,36,37,38,39</b>	<b>Main Action Points</b>  <b>6,7,9,10,11,12,13,31,36</b>	<b>Main Action Points</b>  <b>A4,3,4,8,26,27</b>

--	--	--	--	--

## 13 SUMMARY OF PROPOSALS TO REDUCE AIR POLLUTION WITH IMPACTS AND COSTS

### 13.1 SUMMARY OF ACTIONS

- ACTION 1:** - In those instances where pollution and/or traffic issues have been identified, the Council intends to investigate how these issues can be tackled in partnership with local communities. In the course of time action plans will be prepared to tackle these issues where necessary.
- ACTION 2:** - We will collate health information <sup>1,2,3</sup> and begin mapping this on to our GIS system. We will then compare the relevant information to that of air quality hotspots and the AQMA and consider any links. To be completed by August 2004
- Action A1:** - We will press for, and co-operate with Government/Bucks County Council, over implementation of improvements at Handy Cross
- Action A2:** - We will work with Highways Agency, neighbouring authorities and Bucks County Council in order to try and consider schemes in more detail and take note of findings from MMSs that reference air quality across the District and within the AQMA.
- Action A3:** - Following the small expansion of the current AQMA as recommended in Stage 4 we will meet with the Highways Agency again to discuss the possibilities of actions 1 & 6 and will be in a better position to consider option 3.
- Action A4:** - We will actively support the larger National and SouthEast schemes that may improve air quality along the motorway network and promote a modal shift to other forms of transport.
- ACTION 3:** - The Council and CEAC (Corporate Environmental Advisory Centre) will develop partnerships with business and major fleet operators to encourage the accelerated use of cleaner vehicle technologies and cleaner fuels, and promote improved maintenance and considerate and economical driving.
- ACTION 4:** - We will commission CEAC to survey companies in the District to investigate their existing use of alternative fuels and their attitude towards using these fuels in the future.
- ACTION 5:** - The Council will introduce a policy of replacing its own fleet with 'greener' types of vehicle (such as those with particulate traps) or LPG if suitable.
- ACTION 6:** - The Council will seek to improve the availability of cleaner fuels by encouraging new service stations to stock alternative fuels with reference to the results of the survey.

- ACTION 7: -** The Council will support the County Council with its aim to achieve traffic reduction by improving the infrastructure needed to encourage sustainable travel and reduce unnecessary car use.
- ACTION 8: -** We will produce and distribute leaflets and advice to individual drivers on how emissions can be reduced through better driving practices and choice of vehicle/ fuels. We will be utilising the new Environment Centre (WDC stakeholder) to help achieve this. We will achieve this by August 2003
- ACTION 9: -** We have made proposals for more specific policies on air quality for our Local Plan and we will adopt these policies following inspection. To be adopted by Oct 2004
- ACTION 10: -** Within the emerging Local Plan, Transport policies target a number of areas such as public transport, travel plans and accessibility for example. This will also contribute to improving air quality. We will adopt these policies following inspection. To be completed by Oct 2004
- ACTION 11: -** We will continue to work with the planning department with regard to new developments and ensure that air quality is taken into account when located in or close to the AQMA.
- ACTION 12: -** We will add the exact location of the AQMA to the 'site constraints database' used by planning to ensure that any developments in or close to the AQMA are flagged up for further consideration by August 2003.
- ACTION 13: -** The Council will continue to look for evidence that developers have taken appropriate steps to minimise any increases in air pollution regardless of their location. This will include an assessment of the air quality implications where applicable.
- ACTION 14: -** We will encourage businesses through promotion and existing local travel groups to implement Travel Plans, and promote more sustainable travel to their staff. We will also ensure that new development meeting criteria set out in PPN 05/02 will implement effective Travel Plans. Target to increase the number of businesses engaged in producing green travel plans to 16 by April 2004.
- ACTION 15: -** We will encourage appropriate businesses, through promotion and existing local travel groups, to implement travel planning measures within the Instant Travel Plan.
- ACTION 16: -** The Council will continue to provide advice, encouragement and support to businesses in the development of travel plans through the travel groups that meet at regular intervals.
- ACTION 17: -** The Council will continue to extend the 'travel group' approach to other businesses in the district.
- ACTION 18: -** The Council will continue working with the County and local schools to provide encouragement and support to increasing the uptake of Safer Routes to Schools Schemes. Target to introduce an additional 5 safer routes to school projects by April 2004.

- ACTION 19:** - The Council will continue to give its backing and support to the Bucks Carshare scheme. Target to increase sign-up to Car Share Scheme to 350 by April 2004.
- ACTION 20:** - The Council will continue to support the Wycombe District Travel Groups.
- ACTION 21:** - The Council will continue to support the Wheels 2002 Project.
- ACTION 22:** - The Council will work with the County Council to encourage meeting the PSA targets for bus reliability, and encourage further QBP
- ACTION 23:** - The Council will promote the uptake of LPG by offering a reduction of 25% in Private Hire and Hackney Carriage vehicle licence fees upon the conversion to LPG fuel.
- ACTION 24:** - The Council will positively feed into the development of the Southern Buckinghamshire Pilot Walking Project.
- ACTION 25:** - The Council will positively feed into the development of the proposed cycle routes and work with the County Council to expand the network.
- ACTION 26:** - WDC will begin to role out this project by January 2003. Specific attention will be given to schools close to the AQMA and those that have the worst problem.
- ACTION 27:** - We will expand our promotion of the reporting of smoky vehicles with the introduction of new vehicle emission watch leaflets with freepost envelopes.
- ACTION 28:** - We will expand our monitoring network to incorporate a new continuous monitoring site for Nitrogen Dioxide, to be installed close or within the AQMA by August 2003.
- ACTION 29:** - We will continue to provide comprehensive control over Part B processes
- ACTION 30:** - The Council will continue investigate complaints about nuisance, monitor air quality and relate this to the air quality strategy.
- ACTION 31:** - Improved information and advice to residents and companies in the area about problems caused by bonfires, and enforcement action for persistent offenders who break the Clean Air Act and Environmental Protection Act. We will also encourage residents to compost waste rather than burning it on bonfires.
- ACTION 32:** - We will continue to ensure that only authorised fuels are used in the smoke control area
- ACTION 33:** - The Council already has a policy in its Local Plan to allow the development of renewable energy projects. It will work with TV Energy to encourage 1 renewable energy project in the district by March 2003.
- ACTION 34:** - The Council will continue to monitor the efficiency of its housing stock and council buildings using the standard assessment procedure (SAP) and try to improve the rating wherever possible.

- ACTION 35:** - The Council will develop an Affordable Warmth Strategy and begin implementation by Sept 2004 to increase energy efficiency in households on low incomes and so reduce CO2 emissions.
- ACTION 36:** - We will introduce an Environmental Appraisal as part of our procurement procedure and begin implementation of it by December 2002.
- ACTION 37:** - We will apply for Grant funding for an energy efficiency project in association with the new Environment Centre. Target date December 2003
- ACTION 38:** - In association with TVENERGY we will produce a 'sustainable design guide', promoting high levels of energy efficiency. Target date January 2003
- ACTION 39:** - To achieve accreditation in ISO14001 in 4 business units by March 2003 and full accreditation in EMAS by March 2005.

### 13.2 COST EFFECTIVENESS AND FEASIBILITY APPRAISAL - ALL OPTIONS & INITIATIVES

The feasibility of each action was considered with relation to its likely social as well as economic impacts and the ease of implementation within District. The appraisal on the cost effectiveness assessed each action on its likely direct and indirect costs for us. We took the view that where an action is already in place within the District, it is feasible and cost effective. Finally the likely air quality improvement was considered for each action. A rank order has then been given after considering all the variables with each option.

Those projects that have already been authorised are automatically given the best score for cost effectiveness.

In the second section of the appraisal the 'rank' column has been omitted. This is because all of the options are considered to be suitable for implementation.

#### KEY TO MATRIX:

↑	✓✓✓✓	- MOST POSITIVE	↑
	✓✓✓	- MEDIUM	
	✓	- LESS POSITIVE	





WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
	<b>DIRECT AQMA OPTIONS</b>									
Option 1	Motorway Speed Strategy	✓	HIGHWAYS	✓✓✓✓	✓	Highways must implement	See Stage 4 & AP For exact reductions	Noise, Reduced CO2, Safety	NO	7 at this stage
Option 2	M40 Handy Cross layout changes	✓✓✓✓ (as already agreed)	HIGHWAYS	✓✓✓	✓✓✓✓ benefit to most links	2005/6 see program	Positive impact on area	Safety Economic	NO	2
Option 3	Compulsory Purchase Order	✓✓	HIGHWAYS	✓✓✓✓✓	✓	Unable to specify	No improvements	May wish to move anyway	NO	6
Option 4	Introduction of crawler lane between J3 and J4	✓✓	HIGHWAYS	NO LONGER VIABLE	NO LONGER VIABLE	N/A	N/A	N/A	N/A	N/A
Option 5	Reduce the general background concentrations	✓✓✓✓	WDC	✓	✓✓✓✓	Ongoing	Minimal in AQMA, better in District	Benefits for whole District	YES	5
Option 6	Reductions in Traffic Volume	✓✓✓✓	HIGHWAYS / WDC	✓✓✓✓	✓✓✓✓	Ongoing	Would be very beneficial	Safety, Noise	LINKED	4
Option 7	Continue consultation with HA	✓✓✓✓✓	WDC	Currently Unable to specify	Currently Unable to specify	Ongoing	Unable to specify	Unable to specify	NO	3
Option 8	Actively support larger National / SE E.g. Multi Modal Studies (see 2.5)	✓✓✓✓✓	WDC	✓✓✓✓✓	✓✓✓✓✓	Ongoing	beneficial	Unknown	LINKED	1

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
<b>DIRECT AQMA ACTIONS</b>										
A1	We will press for, and co-operate with Government/ Bucks CC and Highways Agency over implementation of improvements at Handy Cross.	✓✓✓✓	COUNTY, HIGHWAYS WDC.	✓✓✓✓	✓✓✓✓	2005/6 see program	Positive impact on area	Safety Economic	NO	
A2	We will work with the Highways Agency, neighbouring authorities and Bucks CC in order consider schemes in more detail and take on board the findings of MMS's that reference air quality across the District and within the AQMA	Unknown at this stage	COUNTY, HIGHWAYS WDC.	Currently Unable to specify	Currently Unable to specify	Ongoing	Unable to specify	Unable to specify	NO	
A3	Following the small expansion of the current AQMA as recommended in Stage 4 we will meet with the Highways Agency again to discuss the possibilities of actions 1 & 6 and will be in a better position to consider option 3.	Unknown at this stage	HIGHWAYS WDC.			Before March 2003	Potentially large if implemented	Noise Safety	NO	
A4	We will actively support the larger National and SouthEast schemes that may improve air quality along the motorway network and promote a modal shift to other forms of transport.	✓✓✓✓	COUNTY, HIGHWAYS WDC.			Ongoing	Potential to lead to improvement	Economic	NO	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
	<b>COMMUNITY PLAN</b>									
1	In those instances where pollution and/or traffic issues have been identified, the Council intends to investigate how these issues can be tackled in partnership with local communities. In the course of time action plans will be prepared to tackle these issues where necessary.	✓✓✓✓	All WDC	✓✓ (but may be high if identified in plan)	✓✓✓✓✓	2005	Positive and targeted, (less for AQMA itself)	Numerous (See Chapter 3)	YES	
	<b>HEALTH INFORMATION</b>									
2	We will collate health information <sup>1,2,3</sup> and begin mapping this on to our GIS system. We will then compare the relevant information to that of air quality hotspots and the AQMA and consider any links.	✓✓✓✓✓	Planning	INDIRECT BENEFITS	INDIRECT BENEFITS	Aug 2004	Will allow better targeting in future.	Useful for other assessment/ inequality	YES	
	<b>ALTERNATIVE FUELS</b>									
3	The Council and CEAC (Corporate Environmental Advisory Centre) will develop partnerships with business and major fleet operators to encourage the accelerated use of cleaner vehicle technologies and cleaner fuels, and promote improved maintenance and considerate and economical driving.	✓✓✓✓	WDC CEAC	✓✓✓	✓✓✓	Ongoing	Positive impact on area	CO <sub>2</sub> reduction	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
4	We will commission CEAC to survey companies in the District to investigate their existing use of alternative fuels and their attitude towards using these fuels in the future.	✓✓✓✓	WDC CEAC	✓✓✓	✓✓✓✓✓	Aug 2003	Indirectly positive	Indirectly positive	NO	
5	The Council will set itself a policy of replacing its own fleet with 'greener' types of vehicle with particulate traps or alternative fuel if suitable.	✓✓✓	Engineering Services	✓ (but sets good example)	✓ (but sets good example)	Ongoing	Minimal as small fleet	Reduced running costs	NO	
6	The Council will seek to improve the availability of cleaner fuels by encouraging new service stations to stock alternative fuels with reference to the results of the survey.	✓✓✓✓✓	Planning	indirect	indirect	Ongoing	Indirectly positive	NONE	NO	
<b>TRAFFIC REDUCTION SCHEMES</b>										
7	The Council will support the County Council with its aim to achieve traffic reduction by improving the infrastructure needed to encourage sustainable travel and reduce unnecessary car use.	✓✓✓✓✓	COUNTY/ WDC	✓✓✓	✓✓✓✓	Ongoing	Positive impact on District	Improved Accessibility	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
8	We will produce and distribute leaflets and advice to individual drivers on how emissions can be reduced through better driving practices and choice of vehicle/ fuels. We will be utilising the new Environment Centre (WDC stakeholder) to help achieve this.	✓✓✓✓✓	WDC & ENVIRONMENT CENTRE	✓✓✓	✓✓✓	Aug 2003	Indirect	Potential for reduced vehicle running costs	NO	
<b>TRAFFIC REDUCTION and LAND USE PLANNING</b>										
9	We have made proposals for more specific policies on air quality for our Local Plan and we will adopt these policies following inspection.	✓✓✓✓✓	Planning & Policy	✓✓✓✓	✓✓✓✓	Oct 2002	Preventative measure	NOISE	NO	
10	Within the emerging Local Plan, Transport policies target a number of areas such as public transport, travel plans and accessibility for example. This will also contribute to improving air quality. We will adopt these policies following inspection.	✓✓✓✓✓	WDC	✓✓✓✓	✓✓✓✓	Oct 2002	Preventative measure	NOISE, Accessibility	NO	
11	We will continue to work with the planning department with regard to new developments and ensure that air quality is taken into account when located in or close to the AQMA.	✓✓✓✓✓	WDC	✓✓✓✓	✓✓✓✓	Ongoing	Positive & Preventative measure	NOISE	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
12	We will add the exact location of the AQMA to the 'site constraints database' used by planning to ensure that any developments in or close to the AQMA are flagged up for further consideration.	✓✓✓✓	WDC	Indirect	Indirect	August 2003.	Indirect	NONE	NO	
13	We will require schemes that will introduce .... number of cars to provide an environmental impact assessment	✓✓✓✓	WDC	Indirect	Indirect	Immediate	Indirect	NOISE	CURRENTLY INFORMAL	
	<b>WORKPLACE TRAVEL PLANS AND SCHOOL TRAVEL PLANS</b>									
14	We will encourage businesses through promotion and existing local travel groups to implement Travel Plans, and promote more sustainable travel to their staff. We will also ensure that new development meeting criteria set out in PPN 05/02 will implement effective Travel Plans.	✓✓✓✓	COUNTY & WDC	✓✓✓	✓✓✓✓	Ongoing	Positive	Economic	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
15	We will encourage appropriate businesses, through promotion and existing local travel groups, to implement measures within the Instant Travel Plan	✓✓✓✓	COUNTY & WDC	✓✓✓	✓✓✓✓	Ongoing	Positive	Economic	YES	
16	The Council will continue to provide advice, encouragement and support to businesses in the development of travel plans through the Cressex-Link travel group, which meets quarterly.	✓✓✓✓	COUNTY & WDC	✓✓✓✓ (NEXT TO AQMA)	✓✓✓	Ongoing	Positive	Economic	YES	
17	We will continue to extend the 'travel group' approach to other business parks in the district.	✓✓✓✓	COUNTY & WDC	✓✓✓	✓✓✓	Ongoing	Positive	Economic	YES	
18	The Council will continue working with the County and local schools to provide encouragement and support to increasing the uptake of Safer Routes to Schools Schemes	✓✓✓✓	COUNTY & WDC	✓✓✓✓✓	✓✓✓✓✓	Ongoing	Peak congestion improvement	Safety & Health	YES	



WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
	<b>PROMOTING ALTERNATIVE MODES OF TRANSPORT</b>									
19	The Council will continue to give its full backing and support to the Bucks Carshare scheme.	✓✓✓✓	BUCKS CAR SHARE	✓✓✓	✓✓✓✓	Ongoing	Positive	Reduced Travel costs	YES	
20	The Council will continue to support the Cressex Link scheme	✓✓✓✓✓	WDC	✓✓✓✓✓	✓✓✓	Ongoing	Positive impact on area	Economic	YES	
21	The Council will continue to support the Wheels 2002 Project.	✓✓✓✓	Leisure	✓✓✓	✓✓✓	Ongoing	Small but positive	Promotion of Health activities	YES	
22	The Council will work with the County Council to encourage meeting the PSA targets for bus reliability, and encourage further QBP.	✓✓✓✓✓	COUNTY	Indirect	Indirect	Ongoing	Indirect But positive	Improved accessibility	YES	
23	The Council will promote the uptake of LPG by offering a reduction in private hire license fees upon the conversion to LPG fuel.	✓✓✓	Licensing	Indirect	Indirect	June 2003	Positive	Setting good example to others	NO	
24	The Council will positively feed into the development of the Southern Buckinghamshire Pilot Walking Project.	✓✓✓✓✓	Health Promotion	✓✓	✓✓✓	Ongoing	Small but positive	Health, Leisure	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
25	The Council will positively feed into the development the proposed cycle routes and work with the County Council to expand the network	✓✓✓✓	COUNTY / WDC	✓✓	✓✓✓	Set County target dates	Small but positive	Health, Leisure	YES	
26	WDC will begin to role out the 'Waiting Vehicle Scheme' with specific attention will be given to schools close to the AQMA and those that have the worst problem.	✓✓✓✓ (County Supported)	Pollution Unit	✓✓✓✓	✓✓✓✓	January 2003	Point source and background	Community participation	Project Started	
27	We will expand our promotion of the reporting of smokey vehicles	✓✓✓✓	Pollution Unit	✓✓✓✓	✓✓✓✓	Ongoing	Potentially high if successful	Community participation	Project Started	
	<b>MONITORING WITHIN THE AQMA</b>									
28	We will expand our monitoring network to incorporate a new continuous monitoring site for Nitrogen Dioxide, to be installed close or within the AQMA.	✓✓✓	Pollution Unit	Indirect	Indirect	August 2003	Indirect	Community participation	NO	
	<b>ACTIONS TO REDUCE EMISSIONS FROM INDUSTRIAL &amp; DOMESTIC SOURCES</b>									
29	Local Authorities to provide adequate Control over Part B processes	✓✓✓✓✓	Pollution Unit	✓	✓✓✓✓✓	Ongoing	Positive	Prevention of other	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
								pollution		
30	The Council will continue to authorise prescribed industrial processes (Part B processes), investigate complaints about nuisance, monitor air quality and undertake mandatory air quality strategy.	✓✓✓✓	Pollution Unit	✓	✓✓✓✓	Ongoing	Positive	Positive actions & Public perception	YES	
31	Improved information and advice to residents and companies in the area about problems caused by bonfires, and enforcement action for persistent offenders who break the Clean Air Act and Environmental Protection Act	✓✓✓✓	Pollution Unit	✓	✓✓✓✓	Ongoing	Positive	Positive actions & Public perception	YES	
32	We will continue to ensure that only authorised fuels are used in the smoke control area	✓✓✓✓	Pollution Unit	✓	✓✓✓✓	Ongoing	Positive	Reduce Global warming	YES	
	<b>ENERGY/ HEATING</b>									
33	The Council already has a policy in its Local Plan to allow the development of renewable energy projects. It will work with TV Energy to encourage 1 renewable energy project in the district	✓✓✓✓	Agenda 21	✓✓	✓✓✓	by March 2003	Small but Positive	Community participation	YES	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
34	The Council will continue to monitor the efficiency of its housing stock and council buildings using the standard assessment procedure (SAP) and try to improve the rating wherever possible.	✓✓✓✓	Energy Officer	✓✓	✓✓✓	Ongoing	Small but Positive	Energy savings	YES	
35	The Council will develop an Affordable Warmth Strategy and begin implementation to increase energy efficiency in households on low incomes and so reduce CO2 emissions.	✓✓✓✓	Energy Officer	✓✓	✓✓✓	Sept 2004	Small but Positive	Energy savings	Started Project	
36	We will introduce an Environmental Appraisal as part of our procurement procedure and begin implementation.	✓✓✓✓	Environmental Co-ordinator	✓✓	✓✓	Dec 2002	Small but Positive	Setting a good example	NO	
37	We will apply for grant funding for an energy efficiency project in association with the new Environment Centre.	✓✓✓✓	Environmental Co-ordinator	✓✓	✓✓✓	Dec 2003	Small but Positive	Currently unknown	Started project	
38	In association with TVENERGY we will produce a 'sustainable design guide', promoting high levels of energy efficiency.	✓✓✓✓	Environmental Co-ordinator	✓✓	✓✓✓	Jan 2003	Small but Positive	Energy savings	NO	

WYCOMBE DISTRICT COUNCIL AQ FINAL PLAN 1.1

ACTION	ACTION PLAN REFERENCE	Cost Effectiveness	Person/ Org. Responsible ?	Positive affect on people in AQMA	People positively affected by option in District	Date to be achieved	AQ Improvement	Other positive impacts?	Community Plan objective ? or already in place?	RANK
	<b>FUTURE PROJECTS</b>									
39	To achieve accreditation in ISO14001 in 4 business units and full accreditation in EMAS	✓✓✓✓	Environmental Co-ordinator	✓✓	✓✓	March 2003 / 5	Small but Positive	Setting a good example	Started Project	

### 13.3 FUTURE ACTIONS

Wycombe District Council and the Bucks Air Quality Management Group will also be considering the following options to improve air quality within the whole District in the future and look at these issues on a Countywide basis:

< ***Car scrappage schemes.***

Incentive given to owners of old cars to switch to vehicles with cleaner emissions or use alternatives.

< ***Traffic Calming***

Mini roundabouts, road humps, road narrowing (Effects not yet fully appreciated, may actually increase air pollution if not implemented carefully)

< ***Traffic Control Systems.***

Automatic traffic control systems, which respond to traffic volume and are aimed at smoothing the flow through road junctions.

< ***Subsidized public transport***

This could be limited to certain routes.

< ***Ensure that measures in the AQAP do not adversely impact on noise levels, and that they will complement any future noise strategy.***

## 14 DEPARTMENTAL ROLES AND THE ACTION PLAN -SUMMARY

### PLANNING, POLICY & TRANSPORT

- < Provision of information on large scale planning applications and proposals, which may directly or indirectly cause potential increases in air pollution to be passed to Control of Pollution Unit.
- < Re-address and enhance policies to promote schemes and initiatives to minimize traffic generation through planning agreements and conditions.
- < Work to encourage the County to ensure that subsequent submissions of the LTP contain policies to improve air quality, particularly in relation to sensitive receptors and designated AQMA's.
- < Promote policies that will advance modal shift from private vehicle to public transport use.
- < Encourage the implementation of green commuter plans.
- < Focus upon access routes in relation to adverse air quality impacts.

### DEVELOPMENT CONTROL:

- < Ensure AQ impacts are considered fully when an Environmental Impact Assessment is required.
- < Ensure AQ impacts are considered fully when a Traffic Impact Assessment is required. (Traffic vol. Increase of 5% or more).
- < Consider AQ impacts where traffic volumes are anticipated to increase on roads within or near to the Air Quality Management Area.
- < Submit regular planning application list to Control of Pollution Unit.
- < Ensure Travel Plans are submitted where required under Local Plan policies or national guidance.

### BUILDING CONTROL:

- < Explore policies to encourage the promotion of emission-reducing technologies in new developments and buildings.

### POLLUTION CONTROL:

- < Ensure regulation of Part B Processes (And A2 installations under IPPC) complements Action Plan.
- < To ensure new processes, chimney height calculations take account of AQS objectives.
- < Ensure all boilers using fuel oil or coal are identified.

- < Encourage techniques to suppress dust further from regulated processes.

**ENERGY MANAGEMENT:**

- < Encourage home improvement programs that seek to improve heating system efficiencies, insulation improvement and other such initiatives.

**FLEET MANAGEMENT:**

- < Encourage the use of alternatively fuelled vehicles within the council fleets.
- < Encourage the efficient use of council vehicles (car share etc).

**TOURISM:**

- < Ensure the tourism strategies promote measures consistent with the AQAP e.g. to encourage the use of public transport, promotion of natural habitat and environment and sympathetic means of seeing and using the countryside (cycling, walking)

**SUSTAINABLE DEVELOPMENT:**

- < There is a close synergy between the AQAP and sustainability strategies.
- < The AQAP and Community Plan/Agenda 21 strategies must compliment each other in that the AQAP must deliver the objectives of the Community Plan and vice versa.

**EDUCATION SERVICES:**

- < Seek development of school curricula in respect of science, society and the environment, such that the links between transport travel behavior, social and environmental impacts are explored and explained.
- < Local campaigns.

**CHIEF EXECUTIVE:**

- < Ensure the measures outlined in the Action Plan do not conflict with Council Policy.

**FINANCE & TREASURY:**

- < The financial implications of the AQMA will be fully considered as part of the annual budgetary review process and resources provided within budgetary constraints. Where possible, external funding will be sought with our partners.

**HIGHWAYS AGENCY:**

- < The Highways Agency is responsible for maintaining, operating and improving the network of trunk roads. One of their 8 key objectives is to minimize the impact of the trunk road network on both the natural and built environment.



## 15 SUPPORTING DOCUMENTS:

### WYCOMBE DISTRICT COUNCIL DOCUMENTS

WDC Stage 1 Review & Assessment  
WDC Stage 2 Review & Assessment  
WDC Stage 3 Review & Assessment  
WDC Stage 4 Review & Assessment  
WDC Local Plan extract

### GUIDANCE NOTES: -

- NSCA Guidance - How to Consult for Local Air Quality Management, 1999
- NSCA Guidance – Air Quality Action Plans: Interim Guidance for Local Authorities, November 2000
- NSCA Guidance - Air Quality: Planning for action PART 2 of the NSCA Guidance on the Development of Air Quality Action Plans and Local Air Quality Strategies, June 2001
- Developing Local Air Quality Action Plans and Strategies- The Principal Consideration – LAQM.G2 (00)
- LAQM.G3(00) – Air Quality and Transport,
- LAQM.G4 (00) – Air Quality and Land Use Planning.

## APPENDIX 1: - Acronyms and definitions

AADTF	Annual Average Daily Traffic Flow
ADMS	an atmospheric dispersion model
AQDD	an EU directive (part of EU law) - Common Position on Air Quality Daughter Directives, commonly referred to as the Air Quality Daughter Directive
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
AP	Action Plan
AUN	Automatic Urban Network (DEFRA funded network)
Base case	In the context of this report, the emissions or concentrations predicted at the date of the relevant air quality objective (2005 for nitrogen dioxide)
CO	Carbon monoxide
d.f.	Degrees of freedom (in statistical analysis of data)
DETR	Department of the Environment Transport and the Regions (now DEFRA)
DEFRA	Department of the Environment, Farming and Rural Affairs
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EPA	Environmental Protection Act
EPAQS	Expert Panel on Air Quality Standards (UK panel)
EU	European Union
GIS	Geographical Information System
HA	Highways Agency
kerbside	0 to 1 m from the kerb
LADS	Urban background model specifically developed for Stage 3 Review and Assessment work by <b>netcen</b> . This model allowed contributions of the urban background and road traffic emissions to be calculated
Limit Value	An EU definition for an air quality standard of a pollutant listed in the air quality directives
n	number of pairs of data
NAEI	National Atmospheric Emission Inventory
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Oxides of nitrogen
NRTF	National Road Traffic Forecast
ppb	parts per billion
r	the correlation coefficient (between two variables)
receptor	In the context of this study, the relevant location where air quality is assessed or predicted (for example, houses, hospitals and schools)
roadside	1 to 5 m from the kerb
SD	standard deviation (of a range of data)
SO <sub>2</sub>	Sulphur dioxide
TEMPRO	A piece of software produced by the DEFRA used to forecast traffic flow increases
UWE AQMRC	University of the West of England Air Quality Management Resource Centre

SOURCE: - Wycombe District Council Stage 4 Report (AEA Technology 2002)

APPENDIX 2: The Revised Package of Measures and Action Plan for Handy Cross.

The short-term measures include:

- maximising the flexibility of traffic light operation using UTC and CCTV; (HA)
- improving the white lines on the roundabout to guide traffic through the junction; (HA)
- improving the signs to make them easy to follow through Handy Cross; (HA)
- assessing the need for red light cameras after the above improvements have been installed, (HA) and improving the existing footpaths adjacent to the junction. (HA and BCC)

#### Traffic Reduction Measures

The traffic reduction measures that could help to reduce congestion at Handy Cross include:

- promoting awareness campaigns such as TravelWise and the Safer Routes to School initiative; (BCC and WDC)
- encouraging companies to adopt Green Travel Plans; (BCC and WDC)
- working in partnership with Wycombe District Council's town centre development strategy, (HA, BCC and WDC) and supporting the work of the mobility manager at Cressex Island Industrial Estate. (BCC and WDC)

#### Improvements to the Roads at Handy Cross

In addition to improvements scheduled for the roundabout the following schemes will be tested with a view to being incorporated into the design of the junction:

- a new right turn link to cater for traffic travelling from the M40 west (Oxford) to the A404 south (Marlow); (HA)
- a dedicated slip road from the A404 south (Marlow) to the M40 west (Oxford); (HA)
- a widened road from the M40 east (London) to the A404 south (Marlow). The traffic would still need to stop at the traffic light at the junction for reasons of safety; (HA)
- widening of the slip road and roundabout to improve conditions for traffic travelling from the A404 north (High Wycombe) to the M40 east (London), (HA) and provision of a right turn lane for traffic travelling

from A404 south (Marlow) to the M40 east. (HA)

Source: - [www.handycrossjunction.co.uk/revisedpackage.html](http://www.handycrossjunction.co.uk/revisedpackage.html)Key – Measures implemented by:

(HA) Highways Agency (BCC) Buckinghamshire County Council (WDC) Wycombe District Council