The London Borough of Hillingdon


Approved by Cabinet, June 2004

# Local Authority Information

| | |
|---|---|
| **Local Authority** | The London Borough of Hillingdon |
| **Service Manager** | Kathy Sparks, Head of Consumer Protection |
| **Officer to contact** | Val Beale |
| **Contact address** | 3W/01 Civic Centre<br>High Street<br>Uxbridge<br>Middlesex<br>UB8 1UW |
| **Contact phone number** | 01895 277454 |
| **Contact email address** | VBeale@hillingdon.gov.uk<br>envhealth-epu@hillingdon.gov.uk |
| **Council website** | www.hillingdon.gov.uk |
| **Air quality website** | www.hillingdon-air.info/ |

# Executive Summary

This document, together with appendices and a detailed database on air quality improvement measures, presents an air quality action plan for the London Borough of Hillingdon. A series of options have been identified and an assessment made of their suitability for implementation in Hillingdon.

Hillingdon requires an Air Quality Action Plan because it is forecast that annual average concentrations of nitrogen dioxide ($NO_2$) in several parts of the Borough will exceed the national target for 2005. This target defines a level of pollution which experts consider represents an acceptable level of risk to human health. In accordance with regulations an Air Quality Management Area (AQMA) has already been declared.

The process of air quality assessment and AQMA declaration has been described in earlier reports that are available from the Borough Council. These showed that the main sources of oxides of nitrogen in the Borough are road traffic and activities associated with Heathrow airport. However, other sectors also make important contributions to the overall pollutant load in the Borough, including emissions from domestic and commercial premises. It is important to consider all of these sources in the Plan in the interests of developing a proportionate and cost-effective response to air quality problems in the Borough.

A number of other plans have been considered during the development of this plan. These include:

- The Mayor of London's Air Quality Strategy
- The West London Air Quality and Transport Plan
- The London Plan
- BAA's Action Plan for Heathrow.
- The Aviation White Paper
- The Unitary Development Plan (UDP),
- Supplementary Planning Guidance on Air Quality,
- Our Common Future - Local Agenda 21 Plan (LA21),
- The Hillingdon Local Delivery Plan, replacing the earlier Health Improvement and Modernisation Plan (HIMP),
- The Interim Local Implementation Plan (ILIP) 2002/03, particularly through its plans for transport services in the Borough,
- The Hillingdon Community Plan
- The Environmental Services Plan
- The Borough Transport Strategy

A major part of the work presented here has thus been to collate these and other plans and to develop a strategy that will ensure, to the extent possible, that they deliver the air quality improvements expected of them. Without such a strategy it would be wholly inappropriate to consider additional measures that themselves may not be adequately implemented.

Given that there are a large number of measures considered in the plan, it has been appropriate to group them into a series of packages, as follows.

First, a series of packages designed at reducing emissions from road transport;

1. Switching to cleaner technologies – promoting use of public transport, cycling, etc., shifting freight from road to rail, etc.
2. Tackling through traffic;
3. Promotion of cleaner vehicle technology;

Secondly, two packages that deal with emissions from specific sources within the Borough;

4. Measures specific to Heathrow Airport;
5. Measures concerning local industries and other businesses

The next package deals with actions that need to be undertaken by the Council to promote more effective use of resources in the Borough;

6. Improving eco-efficiency of current and future developments, including properties owned or run by the Council;

The final package covers actions of a more general nature, for example, implementation of the Mayor's Air Quality Strategy in the Borough;

7. Actions to be taken corporately, regionally and in liaison with the Mayor.

A number of specific measures are described under each package. For each measure an appraisal has been made of the following, more complete information on which is given in an accompanying database, the Hillingdon Action Plan Tracker:

a) Costs;
b) Effects on $NO_2$ concentrations;
c) Effects of these measures on other issues:
    i. Emissions of other pollutants;
    ii. Noise;
    iii. Congestion;
    iv. Attractiveness of public transport;
    v. Social inclusion;
    vi. Local economic vitality;
    vii. Other effects;
d) Which (if any) other plans already include consideration of the measures;
e) Who should take responsibility for implementation of each measure.

The assessment of costs and effects of the measures is, at the present time, approximate. Data are based on experience elsewhere, knowledge of Hillingdon and expert judgement. It is accepted that the data given may need to be revised and comments from stakeholders will continue to be welcomed.

The information given under items (a) through to (d) in the list provides a basis for prioritising measures. Discussion is continuing on the precise schedule for implementation of the plan, including details of:

a) Who will take the lead in implementation for each measure and who will provide support;
b) What specific actions need to be undertaken to implement the measure;
c) How success will be measured;
d) How progress on each measure will be reported.

Information on these issues is recorded in the Action Plan Tracker Database and will be reported in the annual review required by central government.

# List of Abbreviations

| | |
|---|---|
| $\mu g/m^3$ | Micrograms ($10^{-6}$, 0.000001, grams) of pollutant per cubic metre of air. |
| ALG | Association of London Government |
| AQMA | Air Quality Management Area |
| ATM | Air Traffic Movements |
| AUN | Automatic Urban Network (of pollution monitors) |
| BAT | Best Available Techniques |
| CAA | Civil Aviation Authority |
| CO | Carbon monoxide |
| COMEAP | Committee on the Medical Effects of Air Pollutants |
| DEFRA | Department for Environment, Food and Rural Affairs |
| DfT | Department for Transport |
| EPAQS | Expert Panel on Air Quality Standards |
| EPU | Environmental Protection Unit |
| EU | European Union |
| GLA | Greater London Authority |
| GTP | Green Travel Plans |
| HA | Highways Agency |
| HATF | Heathrow Area Transport Forum |
| HDVs | Heavy Duty Vehicles (including buses, etc., as well as trucks) |
| HGVs | Heavy Goods Vehicles |
| HIMP | Health Improvement and Modernisation Plan |
| HSE | Health and Safety Executive |
| ICAO | International Civil Aviation Organisation |
| ILIP | Interim Local Implementation Plan |
| IPC | Integrated Pollution Control |
| IPPC | Integrated Pollution Prevention and Control |
| LA | Local Authority |
| LA21 | Local Agenda 21 |
| LDVs | Light Duty Vehicles (cars and small vans) |
| LEZ | Low Emission Zone |
| LPG | Liquefied petroleum gas |
| LTP | Local Transport Plan |
| MAQS | Mayor's Air Quality Strategy |
| MCA | Multi-criteria assessment |
| NAEI | National Atmospheric Emissions Inventory |
| NO | Nitric oxide |
| $NO_2$ | Nitrogen dioxide |
| NOx | Oxides of nitrogen (the mixture of NO and $NO_2$ in the atmosphere) |
| NSCA | National Society for Clean Air and Environmental Protection |
| $O_3$ | Ozone |
| PAH | Polycyclic aromatic hydrocarbons |
| Pb | Lead |
| PMx | Particulate matter with a diameter of *x* micrometres (typically 10, as in $PM_{10}$) or less |
| ppb | Parts (of pollutant) per billion (of air) |
| SERAS | South East & East of England Regional Air Services Study |
| $SO_2$ | Sulphur dioxide |
| SPG | Supplementary Planning Guidance |
| SUN | Statutory Urban Network (of pollution monitors) |
| T5 | Heathrow Terminal 5 |
| TfL | Transport for London |
| UDP | Unitary Development Plan |
| UNECE | United Nations Economic Commission for Europe |
| VOCs | Volatile Organic Compounds |
| WID | Waste Incineration Directive |
| WLA | West London Alliance |

# Contents

# Chapter 1 Introduction

## 1.1 This Report

The right to good air quality is not only a necessity for a decent quality of life for all those who live and work in the Borough; it is now a legal requirement under European legislation. If steps are not taken to limit air pollution, it will have an increasing impact on quality of life and the health of those most vulnerable in the community. In 1997, the UK's National Air Quality Strategy was published, outlining the need to review and assess air quality across the UK and introducing the concept of air quality management at local level. Local air quality management enables a more focussed and consensual approach to be taken to improve air quality, appropriate to local circumstances and more acceptable to the local community.

This plan describes what can be done to improve air quality in and around the London Borough of Hillingdon. It includes not just new measures identified specifically during the development of the action plan, but also existing actions that are being implemented as a result of national legislation and local plans such as those agreed with the Mayor of London and Heathrow Airport.

A large amount of additional information is available in the appendices to the main report. These provide:

1. A review of compliance for this report against the action plan checklist developed by DEFRA;
2. Further information on those local and other plans that already exist that are expected to affect air quality;
3. A description of the consultation process so far;

And in a separate Access database (the Hillingdon Action Plan Tracker);

4. More detailed information on the options identified here, describing estimates of costs, effect on air quality, other social, economic and environmental impacts, timescales for implementation, responsibility for implementation, etc. Information extracted from the database is provided in an accompanying file.

## 1.2 This Plan and the Proposed Third Runway at Heathrow

The recent government white paper on the future of the aviation industry of the UK states that:

*The further development of Heathrow is supported, including a further new runway and additional terminal capacity to be delivered as soon as possible (within the 2015-2020 period) after the new runway at Stansted, but only if stringent environmental limits can be met. An urgent programme of work and consultation will be started to examine this issue further and to consider how best use can be made of the existing airport.*

Hillingdon should clearly take a prominent role in the '*urgent programme of work*' referred to, in order to reassure residents and others in the area that their concerns are taken into account. Hillingdon will require additional funding from Government or the airport for this work.

Further details of the Aviation White Paper are given in Appendix 4. It is stressed that the Council remains opposed to further expansion of the airport. However, whilst the possible development raises important issues for the Borough in the longer term it does not affect the need to plan to improve air quality in the period 2005 – 2010 when national and European air quality objectives come into force.

## 1.3 Air Quality Legislation

Research since the mid 1980s has linked existing levels of air pollution with poor health, particularly for the very young and old, and other sensitive groups such as asthmatics (references and other useful sources of information here and elsewhere are listed at the end of this report). The role of air pollution at levels typical of western Europe is generally seen as exacerbating existing conditions. Research literature now links air pollution with various health impacts, ranging from increased use of bronchodilators by asthmatics, to hospital admissions and death.

At a scientific and medical level, UK national government has investigated the problem largely through two committees, EPAQS (the Expert Panel on Air Quality Standards) and COMEAP (the Committee on the Medical Effects of Air Pollutants). In response to their conclusions, the government developed the National Air Quality Strategy, setting objectives for individual pollutants with timescales for compliance (see Appendix 2). These objectives are similar to those developed by the European Union through the Framework Directive on Ambient Air Quality and a series of 'daughter directives' that set limits for individual pollutants.

Much has already been done through national and European legislation to control emissions from vehicles, industry and other stationary sources. Despite this, local factors such as traffic volumes, road layouts and proximity of housing to industrial facilities are very important in determining whether or not these air quality limits are exceeded. Recognising this, government requires local authorities to assess air quality using monitoring and computer based models. In the event that one or more of the national objectives are exceeded (as in Hillingdon), Councils are required to designate air quality management areas and develop action plans for improving air quality.

## 1.4 The Situation in Hillingdon

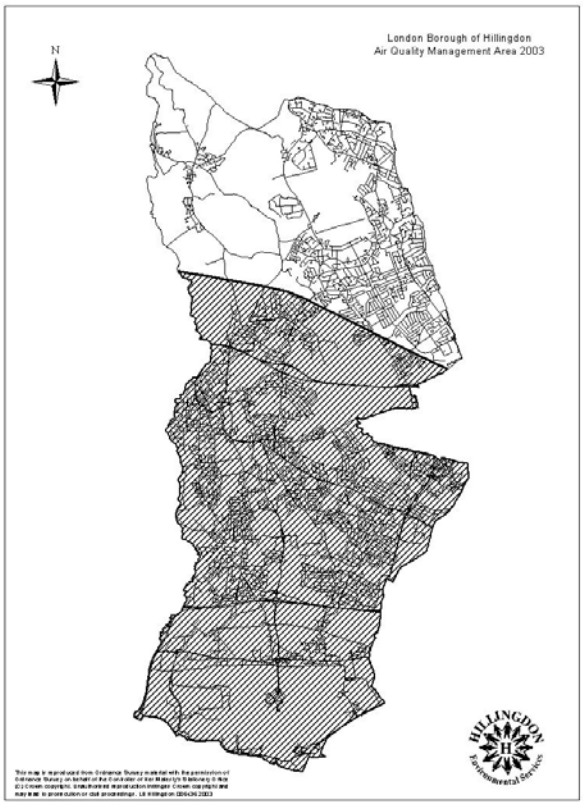
Following national guidance, assessment of pollutant levels in Hillingdon against national and European standards was carried out in three stages, each one informing the next as to the pollutants of concern and areas where problems were anticipated. The third stage required detailed dispersion

modelling of emissions from sources including road traffic, industry, aviation and the domestic and commercial sectors. Air quality data collected at sites within the Borough were used to validate the analysis and predictions were made as to the likelihood of the Government's air quality objectives being met in the Borough.

The modelling studies predicted that the annual average nitrogen dioxide objective for 2005 (40 µg/$m^3$) would not be met across the southern part of the borough and near major roads such as the Uxbridge Road, Hayes Bypass and the A40. The highest exceedences are forecast for the area around Heathrow Airport. Given that the standard for $PM_{10}$ is being tightened for the year 2010, Hillingdon will seek to ensure that measures adopted for reducing NOx emissions will also have a positive effect on $PM_{10}$ concentrations.

## 1.5 Declaration of the AQMA

An Air Quality Management Area (AQMA) was declared by the Council in May 2001 based on forecasts of public exposure to nitrogen dioxide. The AQMA included all areas south of a boundary following the A40 from the west to Yeading Brook, then to Ruislip Gardens Station, and then along the railway line in the direction of Northolt Station in the east of the Borough.




Subsequent analysis (the Stage 4 Review and Assessment) found that whilst declaration remained necessary for $NO_2$ alone, the boundary needed to be extended northwards, and so the Borough issued a new AQMA Order on September 1st 2003. This defines the AQMA as covering all parts of the Borough south of the Chiltern-Marylebone Railway line. The map to the left shows the revised extent of the AQMA.

Although the AQMA was based primarily upon consideration of concentrations of the pollutant nitrogen dioxide, it was agreed that Hillingdon would continue to monitor $PM_{10}$ and include it in any future modelling studies and in the development of the action plan, because of the importance of its health effects. The AQMA includes all areas where there are forecast exceedences of the objectives for $PM_{10}$.

## 1.6 Projected Air Quality Within the AQMA

Figure 1 presents the projected annual mean $NO_2$ concentrations in 2005 within the Borough, as estimated in the Stage 4 Assessment used in the revision of the AQMA. The mapped concentrations clearly demonstrate the high concentrations that are forecast across the AQMA. The 40 $\mu g/m^3$ $NO_2$ standard is forecast to be exceeded very significantly around Heathrow and busy roads.

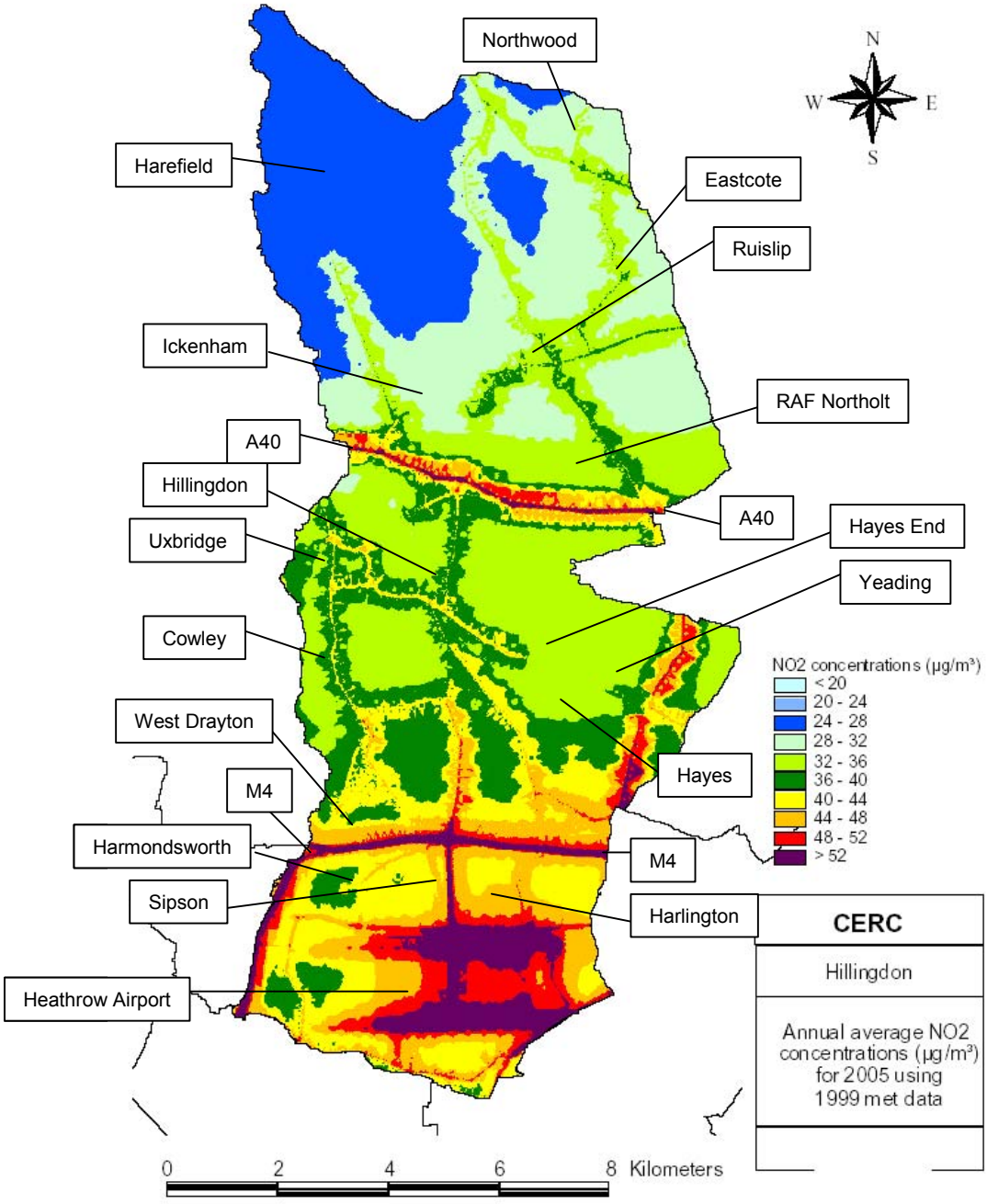



**Figure 1. Projected annual mean $NO_2$ concentrations in the London Borough of Hillingdon in 2005 (from CERC 2003a).**

## 1.7 Sources of Air Pollution in Hillingdon

In order to develop an action plan that is cost-effective and deals with different sources of pollution in a cost-efficient and proportionate manner, it is essential to understand how these sources contribute to concentrations in the AQMA. Table 1 presents the estimated sector breakdown of NOx emissions in 2005 within the Borough. Further information is provided in Appendix 6.

**Table 1. Sector breakdown of annual NOx emissions in 2005 within the London Borough of Hillingdon**

| Sector | Emission (tonnes /year) | % of total |
|---|---|---|
| Domestic combustion | 320 | 5.0% |
| Commercial & small industrial combustion | 165 | 2.6% |
| Council heating | 15 | 0.2% |
| Non-council public heating | 15 | 0.2% |
| Regulated Industry | 215 | 3.3% |
| Airport on-site activities | 3750 | 58.2% |
| Public transport | 515 | 8.0% |
| Road transport – Heavy Goods Vehicles (HGVs) | 605 | 9.4% |
| Road transport – Light Duty Vehicles (LDVs) other than cars | 145 | 2.3% |
| Road transport - Cars | 645 | 10.0% |
| Road transport - Council fleet | 30 | 0.5% |
| Road transport sub-total | 1690 | 26.20% |
| Other | 20 | 0.3% |
| **Total** | **6440** | |

These sources contribute to ambient NOx concentrations in different locations within the AQMA to a varying extent depending on source characteristics, location of receptors and meteorology. To illustrate this Table 2 presents the contribution of different sources to predicted ambient NOx concentrations at two relevant locations, one close to Heathrow airport and one at the northern boundary of the AQMA close to the A40.

**Table 2. Sector breakdown of annual mean NOx concentration in 2005 at two illustrative receptor locations within the London Borough of Hillingdon.**

| | Close to Heathrow | Close to major road (A40) |
|---|---|---|
| Background | 15.3 | 15.3 |
| Major roads | 21.8 | 28.7 |
| Industry | 3.6 | 2.7 |
| Airport | 29.7 | 3.9 |
| Other | 9.3 | 12 |
| **Total** | **79.7** | **62.6** |

It is to be noted that these data link sources not to $NO_2$ concentrations but to NOx emissions (Table 1) and NOx concentrations (Table 2). The reason for this is that there is a complex relationship between concentrations of the two components of NOx (NO and $NO_2$) and other pollutants, particularly ozone. The relationship is not linear and this, together with the contribution of background sources, means that, in the case of Hillingdon, a 10% reduction in $NO_2$ concentrations would require a significantly larger reduction of local NOx emissions. It is estimated in Appendix 6 that, depending on total NOx concentration, a 10 $\mu g/m^3$ fall in NOx levels would lead to a fall in $NO_2$ levels of between 2.1 and 3.6 $\mu g/m^3$.

Table 2 shows that airport emissions contribute significantly to predicted ambient NOx concentrations in the southern part of the AQMA but not in the northern part. Emissions from traffic on major roads are significant at all locations close to this type of source. Contributions from background and 'other' sources (which includes traffic on minor roads) will also be significant though not dominant throughout the AQMA.

## 1.8 Limits on the Capacity of the London Borough of Hillingdon to Influence Local Air Quality

The tables and maps above demonstrate the importance of major roads and Heathrow Airport for generating emissions of NOx sufficient to cause the observed widespread exceedences of the air quality standard. Figure 1, for example, shows that the north of the Borough, remote from these sources, is predicted to be free of exceedence by 2005. Neither source, however, is under the direct control of the Borough. The airport is run by BAA plc. whilst major roads are the responsibility of the Highways Agency and Transport for London. In addition, major industrial facilities are regulated by the Environment Agency, though a number of smaller processes are regulated by the Council. Background sources from outside the Borough are also, by definition, outside the immediate control of Hillingdon Borough Council. Further information is provided in Appendix 4.

### 1.8.1Heathrow Airport

Heathrow is owned and operated by BAA Heathrow, a subsidiary company of BAA plc. The company provides facilities for over 450 organisations and companies. It is the largest airport in the UK and in 2000 served 64 million passengers and handled 1.3 million tonnes of air freight. The generation of a large number of flights brings with it corresponding volumes of surface traffic. Heathrow is situated in close proximity to residential areas and air pollution levels around Heathrow are predicted to exceed national air quality objectives in 2005. Following the decision to approve the construction of the new Terminal 5 (T5) at Heathrow, due to be open for full operation in 2008, it is currently difficult to envisage how or when the air quality exceedences around Heathrow may be eliminated.

In July 2002 the SERAS report was sent out for consultation with regard to obtaining views on the Government's options for new airport capacity for the next 30 years. One of the options that will affect Hillingdon is the construction of a third runway at Heathrow to the north of the existing airport. More recently, in December 2003, government published the Aviation White Paper, "The Future of Air Transport", following on from the SERAS consultation.

Hillingdon are strongly opposed to the further expansion of Heathrow on the grounds of the serious environmental impacts that would ensue including a worsening of air quality. Even without the third runway, air pollution in the area is predicted to be above the European limits as far ahead as 2015. With a third runway the number of people exposed to unacceptable air quality would double. Clearly any such expansion would be in direct conflict with the Air Quality Action Plan's goals of improving the quality of life and health of the residents and workers in Hillingdon, as well as national and European legislation.

As airport policy is determined at national, and in some aspects international, level, Hillingdon has little direct influence to control pollutant emissions from Heathrow. Further details on future developments at Heathrow can be found in Appendix 4.

### 1.8.2Major Roads.

Roads in the Borough are the responsibility of the Highways Agency, Transport for London and the Borough Council, as shown in Figure 2.

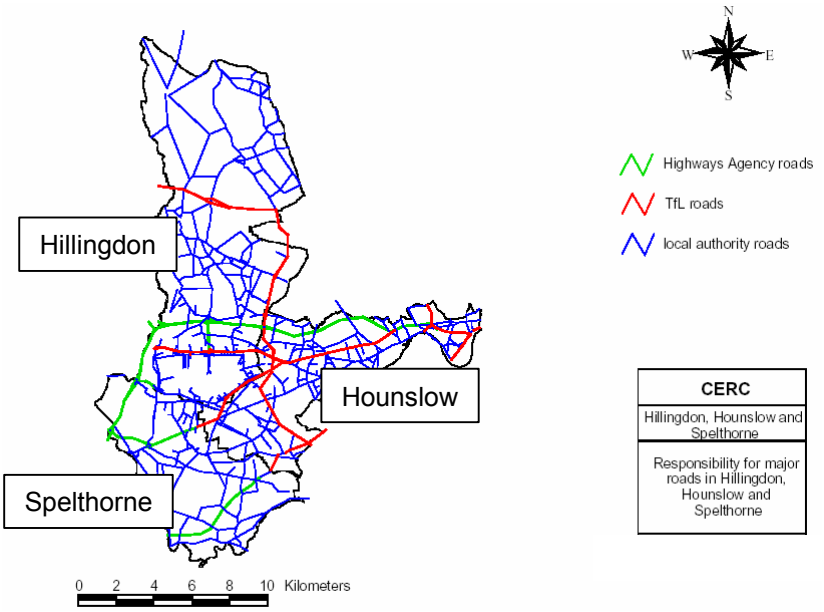



**Figure 2. Control of major roads in and around Hillingdon's AQMA.**

Each of these bodies has specific objectives, some of which will conflict with those set nationally for air quality. Through this plan it is therefore essential to establish an appropriate basis for factoring air quality into wider decision making.

### 1.8.3Major Industrial Sources

Industry is regulated partly by the Environment Agency and partly by local authorities, with the Agency responsible for larger and more complex plant. Legislation of the past 20 years, such as the recent EU Directives on IPPC (Integrated Pollution Prevention and Control) and waste incineration, combined with trends such as the move away from traditional fuels (coal and oil) to natural gas, has led to a major decline in the importance of industry as a pollution source.

However, these industries can have significant effects on air quality by generating local pollution in the immediate vicinity of a plant and through raising background levels of pollution. Hillingdon can, via the planning process, ask for conditions more stringent than those that would typically be defined as Best Available Techniques (BAT) under IPPC if a plant is operating in or close to “sensitive” areas.

### 1.8.4Background

The atmosphere in Hillingdon includes pollutants generated from other Boroughs in London and other parts of the UK, and indeed, the rest of Europe, in addition to emissions from local sources. Overall, the source apportionment study carried out for Hillingdon estimated that these background contributions comprise between 10% and 24% of the NOx concentrations across the Borough. As in the other cases listed above, the Borough Council does not have control over these emissions.

This demonstrates the need for Hillingdon to work in partnership with a wide range of stakeholders in order to secure reductions in emissions from these sources. One of the most important actions in the plan is thus to ensure that there is effective dialogue between the Council and the other stakeholders mentioned, and that measures that are already agreed will be implemented effectively and in a timely fashion.

# Chapter 2
# Existing Policies that Take Air Quality into Account

Policies at a number of levels already have significant effects, both positive and negative, on air quality in the Borough. This Chapter identifies the most important of these, particularly where they dictate actions required for inclusion in this plan. Further details of some of the plans for Hillingdon are given in Appendix 5.

## 2.1 National and European Policy

The main areas of national policy with an effect on air quality in addition to the air quality strategy and associated European legislation are:

- The 10 year transport plan;
- The introduction of IPPC (Integrated Pollution Prevention and Control);
- The EU's Waste Incineration Directive (WID);
- The EU's Noise Directive;
- Energy and climate change policy, for example, implementation of the UK's obligations under the Kyoto Protocol;
- UK policies on aviation, including the White Paper on the Future of Aviation.

In most cases there are opportunities for significant benefits between these policies and improved air quality. In the context of Hillingdon, the Noise Directive would seem to be particularly relevant to the area surrounding Heathrow, not just in respect of aircraft noise but also because of the high volume of road traffic using the area. Climate change policy should benefit air quality across the Borough, particularly if stronger action is to be taken on energy efficiency, for example in building regulations.

## 2.2 The Mayor's Air Quality Strategy (MAQS)

The key issues addressed through the MAQS are:

- Reducing traffic, for example, through the use of congestion charging,
- Improving public transport,
- Promoting the use of cleaner road vehicles including buses and consultation out on taxis,
- Low emission zones (LEZs),
- Traffic management,
- Industrial and transboundary sources,
- Construction and construction vehicles,
- Energy and heating.

The Mayor expects Boroughs to contribute to the policies and proposals, by requiring measures to be addressed through air quality action plans.

The Mayor's plan highlights the fact that Heathrow Airport is one of the major sources of air pollution in London. Also, that the area surrounding Heathrow is one of the major areas in Greater London for exceedence of the air quality objective for annual average $NO_2$ (along with Central and Inner London, and the M25). The MAQS includes a number of policies and proposals for the reduction of emissions arising from the operation of Heathrow Airport including,

- Minimising emissions from aircraft by encouraging the adoption of the newest, cleanest aircraft designs, minimising emissions during taxiing and idling, and using taxation to encourage further reductions;
- Minimising emissions from direct airport activities from improvements to airside, delivery and freight vehicles, heat and power supplies and construction activities;
- Improving public transport use to and from the airport by both passengers and staff. In particular, the Mayor is leading the drive to construct a new Cross-London rail link, Crossrail 1, linking Heathrow with Central London and beyond; and
- Minimising emissions around the airport from road traffic using major road corridors, through the London-wide measures set out in the Strategy.

## 2.3 The London Plan

The London Plan, as the spatial development strategy for the whole of London, provides the strategic framework for planning over the medium to long term across the capital. It therefore has the potential to make a major impact on air quality policy across the capital. Integration of development and transport provision are particularly key areas. Like the present action plan, this will require a multi-Agency approach. Within Hillingdon, the main policy tools for implementation of the London Plan will be the Unitary Development Plan, the Local Development Framework (to replace the Unitary Development Plan) and the Borough Transport Strategy.

## 2.4 West London Joint Air Quality and Transport Action Plan

The West London Alliance (WLA) provides a forum for six councils, Brent, Ealing, Hammersmith and Fulham, Harrow, Hillingdon and Hounslow. The group is linked by a number of common objectives, one of which is to work together on environmental matters. Richmond upon Thames, although not a member of the Alliance, has worked with the WLA to ensure integration in transport and environmental issues across West London.

As a consequence of the WLA producing a general environmental strategy, a draft Air Quality Strategic Plan 2002-2005 was developed, outlining actions aimed at improving air quality. Given that many of the actions to improve air quality specifically relate to transport, there is close liaison between the air quality and transport groups that steer the West London Transport Strategy.

The West London Transport Strategy could thus play a prominent role with respect to this plan, and the most logical strategic approach to West London's air pollution problems (to the extent that they are a function of transport emissions) is to continue working through the WLA.

A baseline study has been produced (Air Quality and Transport Actions, West London Baseline Study, February 2003) outlining the air quality and transport actions that are currently being undertaken across West London. The study surveyed each partner in the WLA and reports on their status with regard to the eight key action areas of the draft Air Quality Strategic Plan which are:

- Transport and air quality action assessment
- Low emission zones – examination and support
- Transit schemes – support and development
- Land use planning integration
- Bus corridor improvements
- Sustainable and integrated transport action
- Freight movements – quality partnerships
- Heathrow terminal 5

It is anticipated that progress against the baseline will be monitored and that the Strategic Plan will evolve into a more detailed action plan containing relevant actions from this air quality action plan and those of other WLA partners.

## 2.5 Hillingdon Borough Draft Transport Strategy

The transport strategy is aimed at improving access and reducing congestion and other negative impacts (social and environmental) of current transport systems in the Borough and surrounding areas. Key areas include improvements to public transport and freight distribution and promotion of cycling and walking. Further details are given in Appendix 5 (Section A5.6).

## 2.6 BAA Action Plan for Heathrow

As part of the conditions of the approval for the building of a 5th Terminal (T5) at Heathrow, the operator, BAA Heathrow, was required to produce an action plan aimed at reducing emissions to air. This action plan was submitted to Hillingdon and neighbouring authorities in 2002. The plan focuses on reducing emissions over six key areas namely:

- Aircraft operations management;
- Airside vehicle fleet management;
- Better understanding of airport emissions and their impacts;
- Surface access;
- Land use planning;
- Emissions from fixed point sources and construction.

As part of the T5 approval BAA are required to keep this action plan under review and to submit the results of the review to the London Boroughs of Hillingdon and Hounslow.

## 2.7 Local Policies

A number of local policies already stress the need for action on air quality. These are discussed in more detail in Appendix 5 and include:

- The Unitary Development Plan (UDP),
- Supplementary Planning Guidance on Air Quality,
- Our Common Future - Local Agenda 21 Plan (LA21),
- The Hillingdon Local Delivery Plan, replacing the earlier Health Improvement and Modernisation Plan (HIMP),
- The Interim Local Implementation Plan (ILIP) 2002/03 particularly through its plans for transport services in the Borough, and the Borough Transport Plan which is currently in development,
- Draft Borough Transport Strategy
- The Hillingdon Community Plan
- The Environmental Services Plan

In development of this plan consideration is being given to the main objectives and actions for each of these policies, and any information on costs and effectiveness that may be available through them.

## 2.8 Conclusions

It would clearly be wrong to develop air quality policy in Hillingdon independently of the policies listed above. To do so would ignore two things. Firstly, that joined-up policy making offers substantial benefits in terms of cost-effectiveness. For this reason the impacts of options for air quality improvement on transport, noise and climate change (amongst other issues) are considered in the discussion of options that follows in later chapters of this action plan. Secondly, that coherent actions taken across London stand a far better chance of success than a series of isolated and disjointed measures.

The need to take account of a diverse range of actions across the Council and other organisations means that implementation of the plan will need to include monitoring of activities carried out by a variety of stakeholders. This imposes a significant networking responsibility on those responsible for the implementation of the Air Quality Action Plan. An efficient mechanism for doing this has been developed via EMRC's Action Plan Tracker database.

# Chapter 3 Development of the Action Plan

## 3.1 Guidance on Achieving the Standards

Guidance has been issued by both DEFRA and the National Society for Clean Air and Environmental Protection (NSCA); references are listed in Section 6.3. The DEFRA guidance lists four factors that have to be considered in the selection of options:

- Air quality improvement;
- Non air quality effects;
- Cost effectiveness;
- Perception and practicability.

**Air quality improvement:** Analysis starts by considering the sources of air pollution that lead to exceedence of the air quality standards to quantify the improvements required (see Section 1.7). In the case of $NO_2$ the link between emission and concentration needs to take account of chemical processes in the atmosphere – there is not a simple linear relationship between reduced emissions of NOx and reduced concentrations of $NO_2$.

**Non air quality effects:** An action plan should be designed to account for other policies. By doing so it should account also for the social, economic and broader environmental impacts of the measures considered.

**Cost-effectiveness:** Measures proposed in an action plan must be cost-effective, in other words, they need to be closely targeted on the problem being addressed and should not waste money, either by being inefficient, or by causing significant and negative secondary effects.

**Perception and practicability:** To be successful an action plan needs to gain wide support across the community. The guidance considers four groups of stakeholders, the public, industry and commerce, elected representatives and external agencies. Each of these groups has different views and concerns when a specific measure is recommended to improve air quality, and so needed to be involved in the consultation process.

The NSCA guidance describes the following stages for action planning, those shown in bold being the stages that this document is mainly concerned with:

- Establish baseline conditions
- **Involve all relevant stakeholders**
- **Generate a list of options**
- **Consider the costs and effects of these options**
- **Prioritise options**
- Evaluate and monitor the plan
- Continue consultation on the plan during its implementation.

## 3.2 Objectives for Hillingdon's Plan

The objectives for Hillingdon's action plan, reflecting the guidance identified above, are described in Box 1. They were developed following discussion with a number of stakeholders from local communities, businesses, and the regulators at the start of the action planning process. They are purposefully described in very broad terms, recognising that many of the measures that may be adopted for improvement of air quality have additional environmental, social and economic impacts (and vice-versa) that need to be accounted for.

**Box 1: Objectives for Hillingdon's Air Quality Action Plan**

To pursue the air quality objectives laid down in the National Air Quality Strategy, whilst

…improving the quality of life and health of the residents and workers in Hillingdon,

…acting in a cost-effective manner, through careful selection of options

…integrating this work with other Council Strategies and the activities of Council Departments, regional bodies, outside Agencies and other interested parties,

…taking account of the needs and views of local people,

…and acting, where possible, to stimulate local employment and the local economy.

## 3.3 Development Process

The development of the plan has been guided by AEA Technology's AirAction system, proceeding through the stages shown in Figure 3.

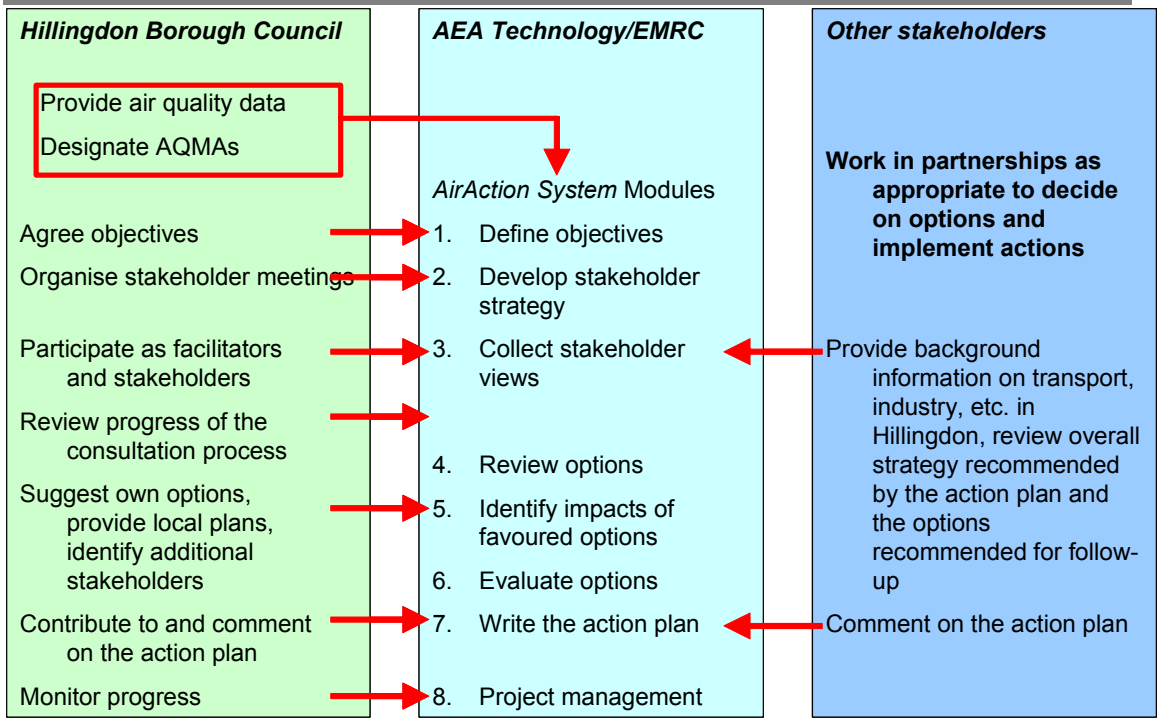



**Figure 3. Scheme adopted in the development of this plan following earlier analysis of air quality in Hillingdon.**

### 3.3.1 Consultation

Early consultation involved council departments, some local businesses, residents groups, some of the regulators and representatives of other groups such as London bus operators and the Primary Care Trust. More recently a more comprehensive consultation has been carried out with local, regional and national stakeholders. Feedback was gathered in the form of the minutes of meetings and written responses, and changes have subsequently been made to the plan reflecting the information provided by stakeholders.

In addition to these meetings convened specifically to discuss measures to improve air quality, further opportunities have been taken to include relevant comments from the LA21 consultation, Community Plan conferences, consultation on the declaration of the AQMA, residents' group meetings where air quality has been discussed, and most recently the Borough Transport Conference.

A list of the stakeholders consulted so far and of meetings held specifically in relation to the development of the action plan is given in Appendix 3.

### 3.3.2 Identification of Options

Several sources of information have been used to identify options for the plan, including:

- The Mayor's Air Quality Strategy;
- BAA's Action Plan for Heathrow Airport;

- AEA Technology's AirAction Options Database, drawing on numerous research and other reports for UK government and the European Commission;
- Other reports listed in Chapter 6.

In addition, other options have been identified in the consultation process. Many of these have a more local character than those contained in the sources listed above, demonstrating the value of effective consultation.

### 3.3.3 Option Appraisal

Consideration of options in the development of this plan seeks to take an integrated approach in accounting for the different attributes of each option relative to:

- Cost.
- Effectiveness in reducing NOx emissions;
- Effectiveness relative to $NO_2$ levels in the Hillingdon AQMA;
- Potential to implement the option before 2005, and then 2010;
- Additional (non-$NO_2$) benefits of the measure;
- Disbenefits linked to the measure;
- Complementarity of measure with local and regional development objectives.

Additional benefits and disbenefits of air quality improvement measures were assessed in terms of:

- Other (non-NOx) air pollutants
- Noise
- Congestion
- Attractiveness of public transport
- Social inclusion
- Economic vitality of local businesses
- Other (to pick up impacts that may be very specific to certain options).

This listing had been developed building on previous work with other local authorities, particularly Sheffield City Council. Assessment of these impacts is not an exact science. Each impact was assessed for each measure on a scale of -3 (possible serious negative impact) to 0 (no effect thought likely) to +3 (possible significant benefit). Results are contained in the database that accompanies this report.[1]

Using the sources listed in Section 3.3.2 and others listed in Chapter 7, over 200 options have been considered and evaluated in terms of cost-effectiveness for air quality improvements and other effects during the development of the plan to the present stage. The methods used for determining the effectiveness of each measure in reducing concentrations are discussed in Appendix 6.

[1] A more precise view of the effects of the options considered in this plan should be developed over time. The necessarily broad scope of this action plan has prevented this level of assessment at the present time.

Cost-effectiveness has been assessed in two stages. The first stage considered options in terms of costs and effectiveness in controlling $NO_2$ with no reference to other effects, based on the following matrix:

| % improvement in air quality | <0.01% | 0.01 - 0.1% | 0.1 - 1.0% | 1 – 5% | 5-10% | >10% |
|---|---|---|---|---|---|---|
| <£0 | | | | | | |
| £0 | | | | | | |
| £0 - 1,000 | | | | | | |
| £1,000 - 10,000 | | | | | | |
| £10,000 - 100,000 | | | | | | |
| £100,000 - 1 million | | | | | | |
| £1 million - 10 million | | | | | | |
| >10 million | | | | | | |

**High cost-effectiveness**
**Moderate cost-effectiveness**
**Low cost-effectiveness**

**Figure 4. Cost-effectiveness matrix.**

The top row of the matrix contains measures that reduce costs, these typically being options that improve efficiency the use of energy or some other resource.

The second stage factored in consideration of additional benefits, disbenefits and complementarity with other plans. So, were an option to be highly recommended on grounds of cost-effectiveness with respect to controlling $NO_2$, but have secondary impacts of a serious and negative nature, it could be reasonable to exclude it from the plan. Similarly, if an option has significant secondary benefits, its prioritisation could be increased. The process is illustrated by a series of case studies presented in Chapter 4.

Specific information relating to option appraisal has been summarised in a database (EMRC's Action Plan Tracker). The data contained within the database are first estimates for each measure in Hillingdon. Information reflects experience elsewhere, to the extent that this is possible and expert judgement where data are lacking. Subsequent development of actions to be taken to implement selected options will also use the Action Plan Tracker, providing a central store of information on options for Hillingdon.

### 3.3.4 Development, Implementation and Monitoring and Future Development of the Action Plan

An initial implementation plan is provided below in Chapter 5. The Action Plan should be regarded as flexible and open to adjustment as new information or new techniques for pollution control become available. Prior to

undertaking some of the options that are listed in the plan it will be necessary to commission specific feasibility studies, particularly where costs will be high. If any option is found impracticable, for example on cost grounds, or has impacts that were not foreseen or are far more significant than originally thought, the plan should clearly be adapted. Equally, if experience elsewhere (for example, with respect to congestion charging in central London) shows that an option not included in the plan is more attractive than originally thought, it may be appropriate to adopt that option.

## 3.4 Relationship between Air Quality Action Plans and Local Transport Plans

In circumstances where transport emissions are the major reason for exceedence of air quality objectives, DEFRA recommends that consideration be given to full integration of the Action Plan with the Local Transport Plan (LTP). This recommendation is not applicable here for a variety of reasons:

- It would fail to recognise the role played by other (non-road traffic) sources. Restriction of abatement options to surface transport-related sources would reduce the cost-effectiveness of the plan and make it far more difficult to achieve the air quality objectives.
- Vehicles using major trunk roads in and around the Borough (M4, A40, M25) are largely outside the remit of the LTP.
- Some management activities that need to be carried out as part of this action plan (for example, more detailed air quality modelling, maintained involvement of stakeholder groups concerned about air quality) are outside the scope of an LTP.
- Differences in the timescales for development of LTPs and the air quality strategy would cause significant problems.

This does not, however, mean that transport planning in the Borough is immaterial to the development of the air quality action plan. It is simply the case that development of a separate air quality plan has a number of advantages that would otherwise be lost.

# Chapter 4 Options for Improving Air Quality

## 4.1 Packages of Measures

This Chapter identifies the options considered of most relevance for improving air quality across Hillingdon. For ease of understanding (both here and for subsequent implementation), options have been grouped into a series of packages:

Package 1: Switching to Cleaner Transport Modes
Package 2: Tackling Through Traffic
Package 3: Promotion of Cleaner Vehicle Technology
Package 4: Measures Specific to Heathrow Airport
Package 5: Measures Concerning Local Industries and Other Businesses
Package 6: Improving Eco-efficiency of current and future developments, including properties owned or run by the Council
Package 7: Actions to be Taken Corporately, Regionally and in Liaison with the Mayor

Given the large number of measures considered, more detailed information has been compiled in the separate database referred to elsewhere in this report.

For some local authorities where exceedences of the air quality standards are small (either in terms of concentration or geographic area) it will be possible to produce an action plan targeted on specific sources, such as a given length of road or a factory. These plans may thus only need to consider one or two options, and feasibility studies may already exist that are specific to the problem. The plans can thus be very brief and contain a lot of high quality information on the costs, effectiveness and other impacts of the proposed measures.

In the case of Hillingdon this is not the case, because the AQMA covers a wide area (it is not restricted to major roads or Heathrow Airport) and a very major reduction in emissions of NOx is needed. On this basis it is necessary to consider a series of options covering different sectors and geographic areas. The quality of information at this stage of the planning process is inevitably not of the quality of plans that are able to focus on one or a few options. The need to consider a series of options also leads to the following alternative positions:

- The fewer options that are contained in the plan, the stronger they will need to be applied. A restricted plan could require measures to be introduced in an extreme way that may compromise its cost-effectiveness.
- The more options that are included, the more difficult the plan will be to implement.

Section 4.2 provides a review of the type of information considered in the development of the option lists. Following the listing of packages and measures in Section 4.3 three case studies are given for illustration in Section 4.5. The case studies are intended partly to demonstrate the factors that are being taken into consideration during the development of the plan and partly to improve understanding of the links to the Action Plan Tracker database that has been developed alongside this report.

## 4.2 Further Details on Measures Proposed Under Each Package

The Action Plan Tracker Database prepared for Hillingdon by EMRC provides the following details for each option in each package:

- Costs,
- Effectiveness in reducing NOx emissions and $NO_2$ levels,
- Prioritisation ranking,
- Reasons for rejection (where appropriate),
- Other impacts (on other air pollutants, social inclusion, congestion, attractiveness of public transport, noise and economic vitality).
- Other plans that include the same measure,
- Stakeholder comments,
- Implementation process for each option with a monitoring mechanism.

A database format is preferred for presenting these data because it enables much easier searching and assessment of the information provided, and unites all information collected on individual options from the time that they are first identified to the time when implementation is complete. The alternative would have been to present information in a series of very long tables in this report – this was considered much less useful.

The information presented here and in the database on both the costs and effectiveness of options is preliminary. Where possible, data have been taken from examples of schemes that have already been implemented, but as these are often not taken from cases in London, there are questions concerning the reliability of the extrapolation exercise. Development of the plan has recognised uncertainties where they are unavoidable, believing that it is better to start from some estimate of cost-effectiveness (etc.) than not, in order to provide insight on the prioritisation process. In general it is most appropriate to interpret figures as being relative across the overall set of options taken into consideration, rather than actual.

## 4.3 Description of Each Proposed Package

Each package is listed below, with a description of:

- Responsibility and implementation mechanism
- Effect on air quality
- Cost-effectiveness

- Whether or not funding has already been identified
- Timescale
- Target

The actions listed here are generally vague in terms of precisely where and to what extent it would be appropriate to apply them under the remit of an air quality action plan for the London Borough of Hillingdon. In the context of Hillingdon where air quality problems are so widespread and where only limited control can be exercised by the local council, it seems more appropriate that these questions continue to be considered by those stakeholders concerned with implementation of the measures.

It will also be noted that many of the measures listed are already being implemented in London in one way or another. This is often for reasons unrelated to air quality improvement. A good example relates to public transport improvements which are aimed primarily at reducing congestion and transport problems.

It is to be hoped that the extreme situation of Hillingdon will be noted and resourced accordingly, not just by Central Government but also by other Agencies with a national or regional remit.

The tables are structured in such a way as to highlight the role of Hillingdon in implementation of the plan. The first group of measures identified in each package are those that Hillingdon can undertake on its own. This is followed by a second group that need to be implemented by other bodies, and with which Hillingdon can work in partnership. The third group relates to lobbying activities, measures that Hillingdon has no direct control over, but may be able to influence, particularly when liaising with other partners, such as GLA.

## 4.4 Key to the Tables of Measures in Each Package

### 4.4.1Fast access to the packages


Package 1 Switching to Cleaner Transport Modes
Package 2 Tackling Through Traffic
Package 3 Promotion of Cleaner Vehicle Technology
Package 4 Measures Specific to Heathrow Airport
Package 5 Measures Concerning Local Industries and Other Businesses
Package 6 Improving Eco-efficiency of current and future developments, including properties owned or run by the Council
Package 7 Actions to be Taken Corporately, Regionally and in Liaison with the Mayor


Note 1: When using the electronic version of this plan, to return to this page, click on:
*Return to list of packages*

Note 2: Lightly shaded options in the tables are those where 'quick wins' are possible. Many of these will not lead to a significant reduction in pollutant emissions, but instead lay the groundwork necessary for successful implementation of other options.

### 4.4.2Impact on air quality ($NO_2$)

| | |
|---|---|
| Low: | <0.1% potential change in emissions within the Borough |
| Medium | 0.1% to 1% potential change in emissions within the Borough |
| High | >1% potential change in emissions within the Borough |

### 4.4.3Cost-effectiveness

Cost-effectiveness is indicated in high, medium or low terms, following from the scheme laid out in Figure 4.

### 4.4.4Timescale

| | |
|---|---|
| Short term: | Within 2 years |
| Medium term | Within 2 to 5 years |
| Long term | Longer than 5 years |

## Package 1: Switching to Cleaner Transport Modes

**Aim**
Although private cars contribute only 10% of the total NOx emissions from road transport in the Borough, they have a disproportionate impact on communities living close to the road network. Hillingdon, working with the Borough Transport Strategy and the West London Alliance, will pursue all opportunities to promote alternative modes of transport. Monitoring of this package will be against annual targets. Measures that will be pursued are listed below although this package will be subject to review and amendment as part of the reviewing process of the Air Quality Action Plan.

**Lead**
Borough Transport Strategy/West London Transport Strategy

**Probable Partners**
Hillingdon Transportation
Hillingdon Education
Transport for London (TfL)
West London Alliance
Heathrow Area Transport Forum
Local Bus Operators
Coach Operators
Train Operators
Primary Care Trust

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 1.1 Establish a Green Travel Plan for Hillingdon | Planning and Transportation | Medium | Medium<br><br>Funding in place | Short term<br><br>Medium term for establishment of Plan | Appointment of co-ordinator<br><br>To establish quantified Plan for Hillingdon employees |
| 1.2 Improve access to, and quality of, public transport travel information | Planning and Transportation;<br>EPU | Medium | Low-Medium<br><br>Borough Spending Plan | Short term | To establish best practice means of communicating travel information |
| 1.3 Encourage the development of more dedicated cycle (priority) lanes and signalling | Highways | Low | Medium-High<br><br>Borough Spending Plan | Ongoing<br>Short t to medium term | Audit current cycle paths and prioritise areas for improvement |
| 1.4 Extend provision of more parking for motorcycles, mopeds and bicycles at public sites and new developments. | Highways;<br>Planning team for new developments via section 106 | Low | Medium-High<br><br>Borough Spending Plan | Ongoing<br><br>Short to medium term | Identify potential sites for provision |
| 1.5 Improve provision for pedestrians | Borough Transport Strategy;<br>Planning team for new developments | Low | Low-Medium | Short to medium term | Identification of 8 sites for improvements |
| 1.6 Introduce more Safe Routes to School throughout the Borough with special regard to the schools within the highest exceedance areas | Borough Transport Strategy | Medium | Medium<br><br>Borough Spending Plan | Short term | Involvement of 10 schools by April 2005 |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 1.7 Ensure Green Travel Plans are a requirement for all businesses (new and existing) employing more than a specified number of people in the Borough. | Planning department via section 106 and planning conditions | Medium | Medium | On appointment of Co-ordinator | Establish mechanism for monitoring, quantifying and auditing of plans throughout the borough |
| **PARTNERSHIP WORKING** | | | | | |
| 1.8 Improve access to, and quality of, public transport travel information on regional basis | West London Air Quality and Transport Group; Heathrow Air Quality Working Group | Medium | Low<br><br>Potentially via Transport bids | Short term once funding identified | To establish best practice means of promoting travel information across the region |
| 1.9 Seek to ensure improvements in overall public transport service (facilities, cleanliness, safety, frequency, reliability) across the Borough and West London, and particularly in declared AQMAs | Borough and West London Transport Strategy in partnership with TfL; transport operators | Medium | High<br><br>Potentially via Transport bids | Medium term | Audit current facilities, seek funding for identified areas for improvement |
| 1.10 Improve the north-south public transport provision in the Borough | Borough Transport Strategy in partnership with TfL; transport operators | Medium | High<br><br>Potentially via Transport bids | Short – Medium term<br><br>Long term | Identify opportunities for improvement and areas of funding<br><br>Implement |
| 1.11 Support multi modal travel by further development of public transport interchanges for rail/cycle/bus/walking both within Hillingdon and the West London area; | West London Air Quality and Transport Group; TfL | Medium | High<br><br>Via West London Transport Spending Plan | Short term<br><br>Medium-long term | Audit of hubs and interchanges in West London<br><br>Develop programme of improvements |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 1.12 Encourage development of efficient and high quality bus corridors | West London Air Quality and Transport Group | Medium | High<br><br>Potentially via West London Transport bid | Short term when funding identified<br><br>Medium-long term | Audit of current bus corridors throughout West London<br><br>Develop programme of improvements |
| 1.13 Investigate potential for more night buses | Transportation team and TfL | Medium | High<br><br>No funding identified | Medium –Long term | Investigate potential with Transport operators |
| **LOBBYING IN PARTNERSHIP** | | | | | |
| 1.14 Investigate the feasibility of working with relevant stakeholders to subsidise bus, train and underground fares in order to achieve significant modal shift; | West London authorities; TfL; Authorities and transport operators outside GLA border | High | High<br><br>No funding identified | Medium - Long term | Investigate potential with Transport operators |

*Return to list of packages*

## Package 2: Tackling Through Traffic

**Aim**
A substantial amount of the NOx emissions from road transport in Hillingdon arise from traffic passing through on the strategic road network. Hillingdon will work in partnership with neighbouring authorities, the West London Alliance and road regulators to smooth traffic flow and ease congestion. Monitoring of this package will be by evaluation of the measures in terms of air quality impacts and assigning targets to measures on a year by year basis. Measures that will be pursued are listed below although this package will be subject to review and amendment as part of the reviewing process of the Air Quality Action Plan.

**Lead**
Borough Transport Strategy
West London Transport Strategy
Establishment of Cross-discipline “Roads” Group

**Potential Partners:**
Hillingdon Transportation team
TfL
West London Alliance members
Heathrow Area Transport Forum
Highways Agency
Neighbouring boroughs such as Slough, Spelthorne, South Bucks
Primary Care Trust.

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 2.1 Introduce Home Zones/20 mph in residential areas subject to significant amounts of through traffic that should use alternative routes. | Transportation/Highways | Low but with potential to target specific areas | Medium-High<br><br>Funding for identified schemes | Ongoing<br><br>Short term | 3 potential schemes identified |
| 2.2 Support the West London Transit Scheme project if appropriate | Public consultation July-October 2004 via TfL; Planning and Transportation | Medium | High<br><br>TfL funded | Medium-long tem | Ensure air quality impacts of scheme assessed |
| 2.3 Ensure the provision of sufficient signage and details of spaces for public car parks; | Highways Department | Medium | Medium<br><br>Funding in place | Short term | Identify priority sites |
| 2.4 Investigate the creation of Clear Zones | Hillingdon Transportation team | Low but with potential to target specific areas | Medium-High<br><br>No funding identified | Long term | Investigate potential areas and secure funding |
| **PARTNERSHIP WORKING** | | | | | |
| 2.5 Develop best practice advice to ensure air quality assessments are made for proposals for new transport infrastructure and changes to traffic management | West London Air Quality and Transport Group | Low-Medium | Funding in place | Short term | Develop and consult on best practice advice |
| 2.6 Work in partnership with TfL to implement schemes along the high exceedance corridors designed to smooth traffic flows | West London Air Quality and Transport Group | Medium | High<br><br>Potentially via West London Transport bid | Short term when funding identified<br><br>Medium-long term | Identify specific traffic measures to smooth flow<br><br>Develop implementation plan across West London |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 2.7 Improve coordination of road works and provide more effective signing around them. | West London Air Quality & Transport Group; Transport for London TfL Street Management Unit | Medium | Medium<br><br>No funding identified | Medium-long term | Assess feasibility of joint action |
| 2.8 Investigate use of high occupancy vehicle lanes and freight priority schemes along the major exceedance corridors such as the M4, A4, A40 and A312 | West London Air Quality and Transport Group; TfL, Highways Agency and neighbouring local authorities | Medium | High<br><br>Potentially via West London Transport bid | Medium term for initial target<br><br>Long Term | Instigate feasibility studies with relevant regulators<br><br>Implement |
| 2.9 Investigate the use of light rail/tram schemes along other high exceedance corridors such as the A4 and A40; | West London Air Quality and Transport Group; TfL + regional regulators, neighbouring authorities | Medium | High<br><br>Potentially via West London Transport bid | Medium term<br><br>Long term | Instigate studies to identify potential routes and feasibility of implementation<br><br>Implementation |
| 2.10 Investigate measures such as variable message signing and other measures to smooth traffic flows on the HA/TfL routes M4 and surrounding link roads; | West London Air Quality and Transport Group; HA, TfL; Neighbouring authorities outside of GLA boundary | Medium | Medium-High<br><br>Potentially via West London Transport bid | Medium term | Establish group to examine feasibility of measures and identify funding opportunities |
| 2.11 Investigate use of speed limits on major roads at the optimal level for NOx and $PM_{10}$ emissions for the current traffic profile; | West London Air Quality and Transport Group; HA, TfL; Neighbouring authorities outside of GLA boundary | High | Medium-High<br><br>Potentially via West London Transport bid | Medium term | Establish group to examine feasibility of measures and identify funding opportunities |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 2.12 Identify air quality congestion-related hotspots throughout West London and the appropriate measures for delivering improvement in both congestion and air quality e.g. new access road from the A40 to Ruislip industrial areas | West London Air Quality and Transport Group | High | High<br><br>Potentially via West London Transport bid<br><br>(Funding in place for initial target) | Short term<br><br>Medium-long term | Identify hotspots throughout West London<br><br>Develop programme of improvements |
| **LOBBYING IN PARTNERSHIP** | | | | | |
| 2.13 Support rail projects that have the potential effect to cut through traffic e.g. Crossrail and extending the Underground system (e.g. Central Line to Uxbridge) | West London Transport Group;<br>SRA;<br>Train operators | Potential to be high | High<br><br>No funding identified | Long term | Assess current rail initiatives and offer pro-active support via lobbying where appropriate |
| 2.14 Work in partnership to investigate use of fiscal measures, such as road pricing, for reducing traffic on major road networks | DfT<br>Hillingdon and surrounding local authorities;<br>HA;<br>TfL | Potential to be high | High<br><br>No funding identified | Short - Medium term | Establish group to examine feasibility of measures and identify funding opportunities |
| 2.15 Consider establishment of cross-agency regional group to address air quality issues with regards to roads | West London Air Quality and Transport Group;<br>Neighbouring authorities outside GLA;<br>Highways Agency;<br>TfL, | Potential to be high | Medium<br><br>No funding identified | Short term | Contact relevant regulators to assess potential of group and identify work streams |

*Return to list of packages*

## Package 3: Promotion of Cleaner Vehicle Technology

**Aim**

Hillingdon will lead by example in cleaning its fleet and trialling new technologies for reducing NOx and particle emissions. It will also work with funding agencies and businesses to promote the use of cleaner technology on a Borough and regional basis and put in place measures to minimise the impact of freight across the region. Monitoring of this package will be by evaluation of the measures in terms of air quality impacts and assigning targets to measures on a year by year basis. Measures that will be pursued are listed below although this package will be subject to review and amendment as part of the reviewing process of the Air Quality Action Plan.

**Lead**

Fleet Management Team
Sustainability Steering Group
Freight Quality Partnership
Heathrow Area Transport Forum

**Potential Partners**

Hillingdon Borough Council
Transport for London (TfL)
West London Alliance (WLA)
Heathrow Area Transport Forum (HATF)
Energy Saving Trust (EST)
Low Emission Zone (LEZ) Steering Group
Fuel Companies/suppliers
West London Freight Quality Partnership (WLFQP)
Chamber of Commerce
Hospitals

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 3.1 Develop an implement an Action Plan via the BAA Heathrow Clean Vehicle Programme to make improvements in the Council vehicle fleet with regard to reducing emissions. | Hillingdon Fleet Management team | Medium | Potentially cost neutral | Short term<br><br>Medium term | Review Action Plan<br><br>Aim for Gold Award |
| 3.2 Encourage local businesses and freight operators in Hillingdon to sign up to the Clean Vehicle Programme and develop and implement action plans for reducing emissions; | Green Business Network | Medium | Funding for co-ordination of CVP in place | Short term<br><br>Medium term | Promotion of Clean Vehicle Programme at Green Business Seminar<br><br>Develop action plans with signed up businesses and review and monitor progress |
| 3.3 Provide training for local authority drivers to minimise emissions, and consider opening training opportunities to other drivers working for businesses in Hillingdon; | Hillingdon Fleet Management team | Medium | No source agreed for initial funding<br><br>Should lead to cost savings | Short term<br><br>Medium term | Identify funding, potential clients, monitoring process<br><br>Assess potential to offer service across Council departments and Hillingdon businesses |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 3.4 Ensure the implementation of the Idling Vehicles Regulations and actively promote the use of the Dirty Diesel Hotline for reporting smoky vehicles spotted in Hillingdon; | Hillingdon Transportation; Highways; EPU | Low (potential for targeting local areas within the AQMA) | Low-Medium<br><br>No funding identified | Short term | Identify internal mechanism for implementing Idling Vehicle regulations |
| 3.5 Consider the recommendations of the London Low Emission Zone Feasibility Study jointly with the GLA, ALG and TfL. | Cabinet decision in partnership with GLA, ALG and TfL | Medium | High<br><br>Funding via TfL (Boroughs input yet to be agreed) | Short term<br><br>Medium-long term | Assess final outcomes and recommend appropriate level of support<br><br>Implement |
| 3.6 Install signs in waiting areas of Council premises, bus garages, coach stations and major leisure venues, etc. advising drivers to switch off engines when stationary; | Highways; Fleet Management | Low (potential for targeting local areas within the AQMA) | Low-Medium<br><br>Funding not identified | Short term | Develop consistency of wording and signage, define mechanism for cross-department liaison |
| 3.7 Lead the way in trialling new technology where appropriate e.g. greater use of electric vehicles in Council fleet, and act as a point of information for businesses and major fleet operators and other stakeholders in Hillingdon for cleaner vehicle technologies, national schemes and grant systems for the use of alternative fuels;. | Hillingdon Fleet Management team | Medium | Low (trialling)<br><br>Medium (provision of advice across Borough) – funding not identified | Ongoing<br><br>Medium-long term | <br><br>Explore use of hydrogen fuel cells |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 3.8 Participate in the London-wide Vehicle Emissions Testing programme. | Vehicle Emissions Testing Steering Group; EPU | Low-Medium | Medium<br><br>Further funding potentially via Borough Spending Plan bid | Short term | Assess potential for Hillingdon to continue as sole borough or regionally |
| 3.9 Investigate the provision of low or zero emission buses for schools within the high exceedance areas; | Fleet Management Team; Education team | Medium | High<br><br>Currently exploring potential funding | When funding identified | Ensure emissions standards are specified in any contract tender |
| 3.10 Focusing on areas and corridors of high exceedance within residential areas, investigation into the banning or restricting of traffic, or particular types of traffic, from identified roads; | Transportation Team; Highways; EPU | Medium | Low-Medium<br><br>Funding potentially via Borough Spending Plan bid | Medium term | Identify potential areas and roads prioritising those in areas of exceedance, for evaluation in schemes |
| 3.11 Investigate the potential for discounts for residents with low emission vehicles in Parking Management Areas~~;~~ | Sustainability Steering Group | Low | Potential loss in revenue | Short-medium term | Presentation to Sustainability Steering Group for investigation |
| **PARTNERSHIP WORKING** | | | | | |
| 3.12 Develop sub-regional Bus Quality Partnerships focussed on addressing the contribution of buses and coaches to emissions. | West London Air Quality and Transport Group; TfL; Bus operators including outside GLA boundary; Heathrow Area Transport Forum HATF | Medium | Medium<br><br>Potential West London Transport or Heathrow Area Transport Forum bid | Short-Medium term | Ensure air quality criteria are key objectives of Bus Quality Partnerships |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 3.13 Work in partnership for the provision of low emission buses in the West London/Heathrow region | HATF;<br>Transport operators and regulators;<br>Local authorities;<br>Energy Saving Trust EST | High | High<br><br>Potential West London Transport or Heathrow Area Transport Forum bid | Medium term | Investigate potential to determine emissions criteria for bus depots throughout the region |
| 3.14 Ensure freight developments in the West London area are subjected to an air quality assessment before implementation; | West London Air Quality and Transport Group | Low-Medium | Low<br><br>Funding identified for regional guidance | Short term | Ensure freight developments are criteria in West London SPG |
| 3.15 Work with the West London Freight Quality Partnership to develop a Freight Strategy to include reducing the air quality impact of freight maximising opportunities to move freight from road to other modes e.g. canals. | West London Freight Quality Partnership;<br>West London Air Quality and Transport Group | Low | Low<br><br>Via West London Transport bid | Short - medium term | Attendance at WLFQP meetings to ensure air quality objectives clearly defined in developing Strategy |
| 3.16 Facilitate the uptake and use of alternative fuels, including water-diesel emulsion. This should include development of appropriate alternative refuelling infrastructure where necessary e.g. charging points for electric vehicles | Planning via section 106;<br>West London Air Quality and Transport Group;<br>TfL,<br>EST;<br>Fuel companies | Medium | Medium-High<br><br>Potentially via West London Transport or Heathrow Area transport Forum bid | Short term<br><br><br><br>Medium-long term | Identify gaps in alternative fuel availability across West London<br><br>Establish forum with EST and fuel companies for further provision of infrastructure |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **LOBBYING IN PARTNERSHIP** | | | | | |
| 3.17 Lobby national government to:<br>• Provide incentives through the fuel duty system for water-diesel emulsion and other such proven cleaner fuels.<br>• retrofitting for smaller vehicles more significant;<br>• beyond 2004;<br>• 100% and encourage more smaller operators to use the grants;<br>• 65% to 75% on a par with most other CleanUp grants;<br>• and CleanUp beyond 2004 until national and EU limit values have been achieved. | West London Air Quality Group; Sustainability Steering Group | Central Govt to assess | Central Govt to assess national costs | Ongoing | Identify and pursue all opportunities for consultation responses and lobbying |
| 3.18 Work to ensure fiscal encouragement of the adoption of low and zero emissions vehicles through the provision of discounts when entering any proposed LEZ or Congestion charging zone; | West London Air Quality and Transport Group; Sustainability Steering Group | Central Govt to assess | Central Gov to assess national costs | Ongoing | Identify and pursue all opportunities for consultation responses and lobbying |
| 3.19 Promote best practice in terms of emissions management with the train operators, the Strategic Rail Authority and Network Rail; | West London Air Quality and Transport Group; Sustainability Steering Group | Medium | May lead to cost savings through fuel efficiency | Medium – long term | Establish forum with rail operators for development of best practice guide |

*Return to list of packages*

## Package 4: Measures Specific to Heathrow Airport

**Aim**

Heathrow Airport is a significant contributor to the NOx emissions in the Borough. Hillingdon, along with neighbouring authorities, will pursue all opportunities to reduce emissions arising from Heathrow and its associated activities. Monitoring of this process will be by quantification of measures with regard to air quality improvements, use of local monitoring data and air quality modelling and by review of the Emissions Inventory provided by BAA Heathrow on a bi-annual basis. Measures that will be pursued are listed below, although, like elsewhere, this package will be subject to review and amendment as part of the reviewing process of the Air Quality Action Plan.

**Lead**

Aviation Team
EPU
Neighbouring Local Authorities
Central Government
European Union

**Potential Partners**

Heathrow Air Quality Working Group (HAQWG: Hillingdon, Hounslow, Spelthorne, Slough and BAA Heathrow)
Aircraft Technical Emissions Working Group (ATEWG: BA, BAA, Hillingdon, Hounslow, Slough, Spelthorne, academic institutions, Dept for Transport, DEFRA, CAA)
Heathrow Area Transport Forum (BAA, regional transport operators, local authorities)
West London Freight Quality Partnership (WLFQP)

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 4.1 Continue to oppose any further expansion at Heathrow that leads to negative air quality impacts | Environmental Protection Unit<br>Aviation team | Potentially very high | Existing council policy | Ongoing<br>Short – medium term<br><br>Short - Medium term | Inclusion in process to review and assess air quality in relation to White Paper<br><br>Inclusion of Heathrow specific planning guidance in development of LDF |
| 4.2 Develop system for auditing the ATM limit and parking provisions for operational T5 | Aviation Team;<br>EPU | Control mechanism to minimise future impacts | Via BAA funding | Ongoing<br><br>Medium term (has to be agreed by 2008) | <br><br>Agree mechanism of monitoring, to include transparent audit of data |
| 4.3 Audit all air quality conditions for the construction phase of Terminal 5 | EPU;<br>Terminal 5 Environment Team | Control mechanism to minimise future impacts | Via BAA funding | Short – Medium term (opens 2008) | Evaluation of construction impacts against NAQS |
| 4.4 Pursue the retaining of the T5 related air quality monitoring network post T5 construction | | Control mechanism to monitor future impacts | Via BAA funding | Medium term (opens 2008) | Open the dialogue with BAA Heathrow |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 4.5 Quantify and pursue emission reductions for all new on-airport development | Aviation Team<br>EPU | Control mechanism to minimise future impacts | Existing council policy | Ongoing<br>Short term | Define criteria for assessment of on-airport development |
| **PARTNERSHIP WORKING** | | | | | |
| 4.6 Evaluate best practice from European and International airports with regard to the minimisation of air quality impacts and assess feasibility of application at Heathrow | Heathrow Air Quality Working Group | Feasibility study needed to assess potential | Medium for initial study | Short - Medium term | Draw together best practice examples for consultation on applicability at Heathrow |
| 4.7 Work with National Government to ensure the use of all relevant fiscal measures to reduce emissions from Heathrow in order to achieve the 2010 EU limit | Local authorities around Heathrow ;<br>Dept for Transport DfT | Potentially High | Potentially high<br><br>Via National Govt | Short - Medium term | Identify forum for identification and prioritisation of effective potential measures |
| 4.8 Assess the potential to set an emissions cap for Heathrow | Heathrow Air Quality Working Group ;<br>DfT | Potentially High | Potentially High<br><br>Via National Govt | Short - Medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.9 Assess the potential to develop a landing charges scheme differentiated by emission levels and use proceeds to create revenue stream for public transport improvements | Heathrow Air Quality Working Group ;<br>DfT ;<br>Civil Aviation Authority CAA | Potentially High | Potentially High<br><br>Via National Govt | Short-medium term | Discuss in Heathrow Workshop 12/7/04 |

| **Action/Measure** | **Responsibility and Implementation mechanism** | **Impact on AQ ($NO_2$)** | **Cost-effectiveness, funding** | **Timescale** | **Initial Target** |
|---|---|---|---|---|---|
| 4.10 Audit progress on the BAA Heathrow Air Quality Action Plan (2001-2006) | Heathrow Air Quality Working Group | Potentially Medium-High | Via BAA | Short term | Quantification of measures completed to date<br><br>Establish progress on future actions and the review process of the Plan |
| 4.11Review air quality monitoring regime at Heathrow and identify potential gaps | Heathrow Air Quality Working Group | Part of continual assessment of air quality in area | Via National Govt and BAA | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.12 Maintain production of externally audited Emissions Inventory on bi-annual basis | BAA Heathrow; Heathrow Air Quality Working Group | Part of continual assessment of air quality in area | Via BAA | Ongoing<br><br>Short Term | Define audit mechanism |
| 4.13 Identify the areas where the existing BAA 5 year Action plan can be strengthened | Heathrow Air Quality Working Group | Potentially Medium-High | Via BAA | Short – Medium term | Identify work programme for delivery of action |
| 4.14 Pursue quantification of measures in the BAA Air Quality Action Plan and Surface Access Strategy in terms of air quality impacts | Heathrow Air Quality Working Group; BAA Transportation | Part of continual assessment of air quality in area | Via BAA | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.15 Assess feasibility of Congestion/Access Charging at Heathrow to reduce overall travel movements to the airport; | DfT ; Local authorities around Heathrow; BAA; TfL | Potentially high | National Govt to assess | Short – medium term | Identify in Heathrow Workshop 12/7/04 |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 4.16 Assess feasibility of an Heathrow specific LEZ to reduce emissions and accelerate take up of cleaner vehicle technology; | DfT ; Local authorities around Heathrow; BAA; TfL | Potentially Medium-High | National Govt to assess | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.17 Assess appropriate target for modal shift to maximise air quality improvements | DfT; BAA; Local Authorities around Heathrow; HATF; HA; TfL | Potentially High | National Govt to assess | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.18 Define programme for the establishment of code of practice for airlines best operating practice to maximise reduction of emissions | Heathrow Air Quality Working Group; Aircraft Technical Emissions Working Group | Potentially High | Funding to be identified | Short – Medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.19 Develop best practice guidelines to ensure air quality impact assessments are integral part of relevant transport and infrastructure proposals, and that appropriate mitigation measures are inclusive part of any scheme | Heathrow Air Quality Working Group; BAA Transportation | Control mechanism to minimise future impacts | Funding to be identified | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.20 Assess feasibility of specifying emissions criteria for Heathrow taxis, buses and coaches using the Central Bus Terminal, and car hire shuttles, hopper buses etc.; | Heathrow Air Quality Working Group; Transport operators; Transport regulators | Medium-High | Via National Govt/BAA | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.21 Ensure the minimisation of the air quality impact of freight deliveries to and from Heathrow is a key objective of the West London Freight Quality Partnership (WLFQP) | Heathrow Air Quality Working Group; WLFQP | Control mechanism to minimise future impacts | Low<br><br>Funding via WLFQP | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.22 Assess the use of bus priority, guided buses and high occupancy vehicle lanes in the Heathrow area; | Heathrow Air Quality Working Group; TfL; HA; DfT | Medium | Low-Medium for feasibility study | Short – medium term | Identify in Heathrow Workshop 12/7/04 |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 4.23 Assess the feasibility of a Park and Ride scheme specifically for Heathrow | Heathrow Air Quality Working Group; HATF; Local authorities; TfL/HA; DfT | Medium | Low-Medium for feasibility study | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| 4.24 Assess the health impact of Heathrow Airport and associated activities | Heathrow Air Quality Working Group; Primary Care Trust/Health Authorities | Part of continual assessment of air quality in area | Funding to be identified | Short – medium term | Identify in Heathrow Workshop 12/7/04 |
| **LOBBYING IN PARTNERSHIP** | | | | | |
| 4.25 Lobby Central Government to pursue more stringent emission standards for plant, aircraft and airside vehicles | Local authorities; EU; DfT; BAA Heathrow | Potentially High | Via National Govt | Ongoing | Identify in Heathrow Workshop 12/7/04 |
| 4.26 Explore feasibility of reducing fares on the Heathrow Express | Local authorities; DfT; BAA Heathrow | Low | Funding not identified | Medium | Identify in Heathrow Workshop 12/7/04 |
| 4.27 Pursue relevant organisations to prioritise public transport provision to Heathrow, particularly rail links to the west, east and south; | Local authorities; HATF; DfT; BAA Heathrow | Medium | Funding not identified | Ongoing | Identify in Heathrow Workshop 12/7/04 |
| 4.28 Explore feasibility of an airport passenger tax, ring-fenced for increased public transport | Local authorities; DfT; BAA Heathrow | To be assessed via feasibility study | Funding to be identified | Short-Medium | Identify in Heathrow Workshop 12/7/04 |

*Return to list of packages*

## Package 5: Measures Concerning Local Industry and Other Businesses

### Aim

Industry accounts for 3.3% of NOx emissions in the Borough. Although emissions are relatively low, reductions in this sector would lead to some local improvements in air quality. Hillingdon will continue to work with industry and business to reduce emissions where possible and will also seek to improve dissemination of information from this sector to the public. Monitoring of this package will be by auditing of set targets on annual basis. Measures that will be pursued are listed below although this package will be subject to review and amendment on an annual basis.

### Lead

Sustainability Steering Group
EPU

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 5.1 Support opportunities for Combined Heat and Power where appropriate within the Borough; | Planning; Climate Change Strategy | Medium | Potential saving through energy efficiency | Ongoing<br><br>Short term | Review Air Quality SPG to ensure quantification of potential emissions in areas of exceedance |
| 5.2 Introduce (within reason) progressively stricter conditions on Part A processes, including incineration processes, especially when located within high exceedance areas or where the impact is predicted to be within high exceedance areas; | EPU; Environment Agency; Primary Care Trust | Medium | Part of existing work | Ongoing<br><br>Short to medium term | Establish written procedure for health impact studies on relevant processes<br><br>Establish procedure for liaison with EA, especially on cross-boundary issues |
| 5.3 Work with the Environment Agency to improve public dissemination of industrial pollutant emissions data and other relevant information, for example on performance against permit conditions; | EPU; Environment Agency | Low | Part of existing work | Ongoing Short term<br><br>Medium term | Establish link on website for EA information<br><br>Include information on Part A processes and emissions in public air quality information mechanisms |
| 5.4 Discourage the use of bonfires on all industrial sites; | EPU | Low | Part of existing work | Ongoing<br><br>Short – medium term | Investigate existing legislation and look to introduce new by-laws if appropriate |
| 5.5 Adopt a best practice strategy for all proposed demolition and development projects. This will include the use of low emission vehicles and equipment and the use of dust minimisation techniques. | EPU | Low | Low<br><br>Part of existing work | Ongoing<br><br>Short-medium term | Draw upon GLA best practice guide to define and consult on Hillingdon specific strategy. |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 5.6 Ensure continued regulation of part B processes and maintenance of part B register. Ensure register is available on-line | EPU | Low | Low<br>Part of existing work | Ongoing<br><br>Short-medium term | Work with operators to secure quantification of emissions for inclusion in Hillingdon Emissions Inventory<br><br>Establish regular dialogue with Part B process operators on new guidance, opportunities for further reductions in emissions etc |
| 5.7 Investigate introduction of Air Quality Action Plans for local industries, including those currently un-regulated under EA | EPU | Low | Medium<br><br>Funding to be identified | Medium-long term | Quantify number and type of relevant industries in Hillingdon |
| 5.8 Consider introduction of Environmental Award system for local industries and businesses | Sustainability Steering Group; EPU | Low | Low-Medium<br><br>Funding to be identified | Short term<br><br><br>Medium-long term | Evaluate uptake from industry/business via workshop<br><br>Define criteria for award if found to be applicable |
| 5.9 Encourage businesses to participate in environmental management schemes and to continue to improve environmental performance | Sustainability Steering Group; | Medium | Low-Medium<br><br>Funding to be identified | Short term<br><br><br>Medium-long term | Evaluate uptake from industry/business via workshop<br><br>Define criteria for award if found to be applicable |

*Return to list of packages*

## Package 6: Improving Eco-efficiency of current and future developments including properties owned and run by the Council

### Aim

The planning system has an important role to play in offering long-term air quality improvements. Hillingdon will use both the planning system along with additional guidance in order to secure further improvements both locally and regionally. Hillingdon will also continue to secure improvements through the Energy Efficiency Programme. Monitoring of this package will be by auditing of set targets on annual basis. Measures that will be pursued are listed below although, like others, this package will be subject to review and amendment on an annual basis.

### Lead

Planning
Energy efficiency programme
EPU

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 6.1 Provide a consolidated platform for advising businesses and the public of the risks of air pollution, ways of reducing pollution, and campaigns such as Bike to Work Week, bringing together information currently spread around several departments of the Council and other bodies. | Sustainability Steering Group;<br>Community Plan;<br>EPU | Medium | Funding not identified | Ongoing<br><br>Short term | Evaluate feasibility of establishment of specific group |
| 6.2 Work with existing buildings and housing stock to secure improvements in emissions | Energy Efficiency programme | Low | Part of existing work | Ongoing | Quantification of numbers of premises and emissions reductions |
| 6.3 Ensure continued use of existing mechanisms such as section 106 agreements for improvements in air quality. The agreement will relate to the location of the development with regards to exceedance areas, the scale of development and the projected emissions; | Planning Department;<br>EPU | Medium | Part of existing work | Ongoing<br><br>Short | Define specifically costed initiatives for section 106 agreements |
| 6.4 Review and update Air Quality Supplementary Guidance when appropriate (see planning application form at Appendix 7). | Planning Dept<br>EPU | Medium | Part of existing work | Ongoing<br><br>Short term | Inclusion of results of Detailed Assessment modelling |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 6.5 Quantify cumulative effects of new developments within AQMA | EPU | Control mechanism to monitor future impacts | SCE funding | Ongoing<br><br>Short-medium term | Establish mechanism for assessment of cumulative impacts and use to inform planning process |
| 6.6 Develop supplementary planning guidance for sustainable design and construction; | Planning;<br>EPU;<br>Energy Efficiency | Medium | Part of existing work | Short - medium term | Use GLA SPG to establish and consult on Hillingdon specific SPG |
| 6.7 Raise awareness of sustainable waste management practices | Sustainability Steering Group;<br>Community Plan;<br>Waste Strategy | Low | Low<br><br>No funding identified | Ongoing | |
| **PARTNERSHIP WORKING** | | | | | |
| 6.8 Development of West London Air Quality SPG to ensure consistency across borough boundaries, explore opportunities for joint section 106 agreements | West London AQ Group<br>West London Planning Teams | Control mechanism to monitor future impacts | SCE funding | Ongoing<br><br>Short term | Develop and consult on West London SPG |

*Return to list of packages*

## Package 7: Actions to be taken corporately, regionally and in liaison with the Mayor

**Aim**
Given that air quality is both a cross-discipline and a cross-boundary problem, Hillingdon will ensure the aims of the Air Quality Action plan are incorporated into both Borough and regional strategies. Measures that will be pursued are listed below although this package will be subject to review and amendment on an annual basis.

**Lead**
Sustainability Steering Group
LSP

*Return to list of packages*

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| **HILLINGDON DIRECT ACTIONS** | | | | | |
| 7.1 Ensure that the London Development Framework, Borough Transport Strategy the Community Plan and future corporate strategies incorporate the borough air quality action plan and local air quality strategy measures where appropriate; | Planning Policy Unit;<br>LSP;<br>Sustainability Steering Group;<br>Corporate Transport Group;<br>Community Plan | Medium | Part of existing work | Ongoing<br><br>Short term<br><br>Medium term | Incorporation into Community Plan objectives and Borough Transport Strategy<br><br>Incorporation into LDF |
| 7.2 Develop an environmental management system for Hillingdon Borough Council. | LSP;<br>Sustainability Steering Group | Medium | Source not identified but there should be areas for significant cost savings | Medium-long term | Evaluate feasibility, costs and benefits of scheme |
| 7.3 Establish an Environment Coordination Office for more effective integration of actions to improve environmental performance within and outside the Council. | LSP;<br>Sustainability Steering Group | Medium | Medium<br><br>Funding not identified | Short - Medium term | Evaluate costs and benefits<br><br>Seek funding opportunities and resources |
| 7.4 Implement an integrated procurement strategy so that purchase of goods and services is evaluated against London sustainability targets. This to include support to environmental industries in London, where appropriate. | Sustainability Steering Group;<br>Corporate Procurement Officer;<br>EPU | Medium | Part of existing work | Ongoing<br><br>Short term<br><br>Short-medium term | Evaluate all Tenders and insert air quality criteria where appropriate<br><br>Develop best practice environmental guidelines and roll-out to external businesses throughput Hillingdon |

| Action/Measure | Responsibility and Implementation mechanism | Impact on AQ ($NO_2$) | Cost-effectiveness, funding | Timescale | Initial Target |
|---|---|---|---|---|---|
| 7.5 Provide air quality information to interested parties and link with other health initiatives | EPU;<br>Primary Care Trust;<br>Healthy Hillingdon | Control mechanism to monitor future impacts | Support Capital Expenditure<br>SCE Funding | Ongoing<br><br>Short – medium term | Establish forum for development of health and environmental issues, health impact assessments, campaigns |
| **PARTNERSHIP WORKING** | | | | | |
| 7.6 Work with the London Sustainable Distribution Partnership to implement infrastructure for effective and integrated distribution of goods in London. | LSP<br>Sustainability Steering Group<br>LSDP | Low-Medium | Funding to be identified | Ongoing<br><br>Short term | Provide link to LSDP, evaluate and share best practice with regard to use of canals for heavy goods transport |
| 7.7 Work in partnership to ensure consistency of Action Plan measures and explore all opportunities for regional measures for reducing emissions; | West London Alliance<br>BAA Heathrow<br>GLA | Medium | SCE funding | Ongoing<br><br>Short – medium term | Conference/seminar to draw all regional measures together |
| 7.8 Development of regional Air Quality Strategy to tackle cross-boundary issues and include all National Air Quality Strategy pollutants, climate change etc | Local authorities around Heathrow | Low-Medium | SCE funding | Ongoing<br><br>Short term | Develop and consult on regional Air Quality Strategy |

*Return to list of packages*

## 4.5 Illustration of the Decision Making Process Used to Recommend Options

The following case studies demonstrate the link between the options listed in this report and the Hillingdon Action Plan Tracker (APT) database that summarises information on their costs and effectiveness. Additional provision exists in the APT database for inclusion of:

- Stakeholder comments on each option,
- A time defined and specific set of actions for each option, and
- Information on the monitoring of the progress of the plan in the SOFT (Situation, Opportunities, Faults and Threats) format.

This expands the tool into a management system that can keep track of progress with the plan from inception to delivery.

### 4.5.1Case study 1: Provision of low emission buses on scheduled routes

Provision of low emission buses on scheduled services is included in Package 3, Promotion of Cleaner Vehicle Technology.

***Estimated costs***

Both unit and total costs for the provision of low emission buses are dependent on numerous factors, for example:

- The number of cleaner buses introduced, which could theoretically range from one bus to replacement of the whole fleet.
- Existing plans for replacing the bus fleet, including schedule and procurement policy with respect to emissions.
- Strategy adopted for the option – using cleaner buses preferentially in the areas with the highest exceedences vs. replacing all existing vehicles ahead of schedule irrespective of the routes that they use.
- Availability of subsidies for advanced technologies.
- Approach taken to costing new vehicles – they demand high capital costs but are likely to have lower maintenance and running costs. Ideally we would know the incremental cost of running a new clean fleet against an older, more polluting fleet.
- The allocation of costs to the Hillingdon AQMA for cleaner buses that pass through other AQMAs and hence may benefit other action plans.

In the face of these unknowns any estimate of cost is clearly going to be very approximate until a much more detailed plan becomes available. The database estimate is £1 million in a range of £1-10 million.

***Estimated effect on air quality***

Emissions from public transport are estimated to make up 8% of all NOx emissions in the Borough. The benefit of cleaner buses is dependent on the quality of the vehicles being replaced and numerous other factors (as for the costs) though there is potential for very significant gains. As a ball park figure based on trends in emission factors, we estimate a potential 25% saving in emission from public transport, which would give a 2% reduction in emissions

across the Borough. There is, again, significant uncertainty in this estimate, but as a ball park estimate it seems reasonable.

***Other impacts***

These are characterised on a scale of -3 (significant negative impact) to +3 (significant benefit). Again, this evaluation is not precise, but it does serve to highlight areas where important benefits or disbenefits will occur. The scores given in the database and associated rationale were as follows:

**Table 3. Assessment of non-NOx impacts of the introduction of low emission buses.**

| Factor | Score | Rationale |
|---|---|---|
| Attractiveness of public transport | +2 | through new vehicles replacing old |
| Congestion | 0 | emphasis is on meeting demand in a cleaner way, though better buses may of course encourage modal shift |
| Economic vitality | +1 | through reductions in noise and air pollution, making local facilities more pleasant to use |
| Noise | +2 | some older buses are very noisy |
| Other air pollutants | +3 | more modern and fuel efficient vehicles will emit significantly less of several pollutants, including fine particles, linked to transport |
| Social inclusion | 0 | does not offer additional services |

***Conclusion***

Whilst the cost of this measure applied on a wide basis could be high (in the order of a million pounds or more) it also seems to offer a significant reduction in emissions.

A similar measure, providing low emission school buses in the AQMA, is not so beneficial, largely because the benefits of such vehicles may be limited through restricted use (the morning and afternoon school runs). It is not known how these buses would be used during the rest of the day.

### 4.5.2Case study 2: Work in partnership with BAA Heathrow and the Heathrow Air Quality Working Group in monitoring the BAA Heathrow Air Quality Action Plan

This measure is included in Package 4, Measures specific to Heathrow Airport.

***Estimated costs***

The Council is already involved in close liaison with the airport, and so the additional costs of this measure may be low, though some further effort from Hillingdon would be required. An illustrative cost of £5,000 for set up and annual costs of £5,000 are included in the database.

***Estimated effect on air quality***
The BAA plan contains a number of significant measures that could overall have a major impact on emissions at the airport – an estimate of 25% is given elsewhere in the database, from consideration of the savings made by businesses that seek to reduce their environmental impact. However, given that this specific measure is about monitoring the Heathrow plan it has no separate air quality benefit of its own.

***Other impacts***
The broad scope of the Heathrow Air Quality Action Plan means that it should have a variety of impacts, many of which are likely to be beneficial, though against the background of the airport looking for expansion it is not clear how much the benefits of these actions will be negated by other activities. However, given that this is a monitoring activity it has no other obvious impacts in itself.

***Conclusion***
It may be asked why a measure that will inevitably involve some cost, but for which additional air quality benefits will not arise (assuming that the airport does implement its plan in full) should be recommended at all. The reason is simply that the Council needs to factor progress on Heathrow's action plan into its own decision making in order to satisfy local demand for independent appraisal of BAA's work and to understand how specific policies have performed. This understanding could help to refine Hillingdon's own plan.

### 4.5.3Case study 3: A measure rejected - Closure of industrial plant

This measure is not recommended for further investigation as industry should be effectively controlled under existing legislation (for example, on Integrated Pollution Prevention and Control, IPPC). Any problems that arise should be dealt with by the regulators (Environment Agency and Local Authorities). The closure of well controlled industries would have negative effects on the economy and employment and would be of very limited benefit.

# Chapter 5 Implementation of the Plan

The structure of the plan is shown in Figure 5. A small number of coordination and management actions (identified below) occupy a top tier, above a series of seven packages. Coordination and management includes activities such as:

- Review of the Action Plan following further consultation and experience gained in implementing measures, for example with respect to which measures work well and which measures are problematic
- Provision of annual progress reports to DEFRA
- Continued air quality monitoring and review and assessment

Each package contains a number of measures (as listed in Chapter 4, above), such as specific improvements to public transport, promotion of energy efficiency, etc. Each of these measures requires definition of a series of actions for its implementation.

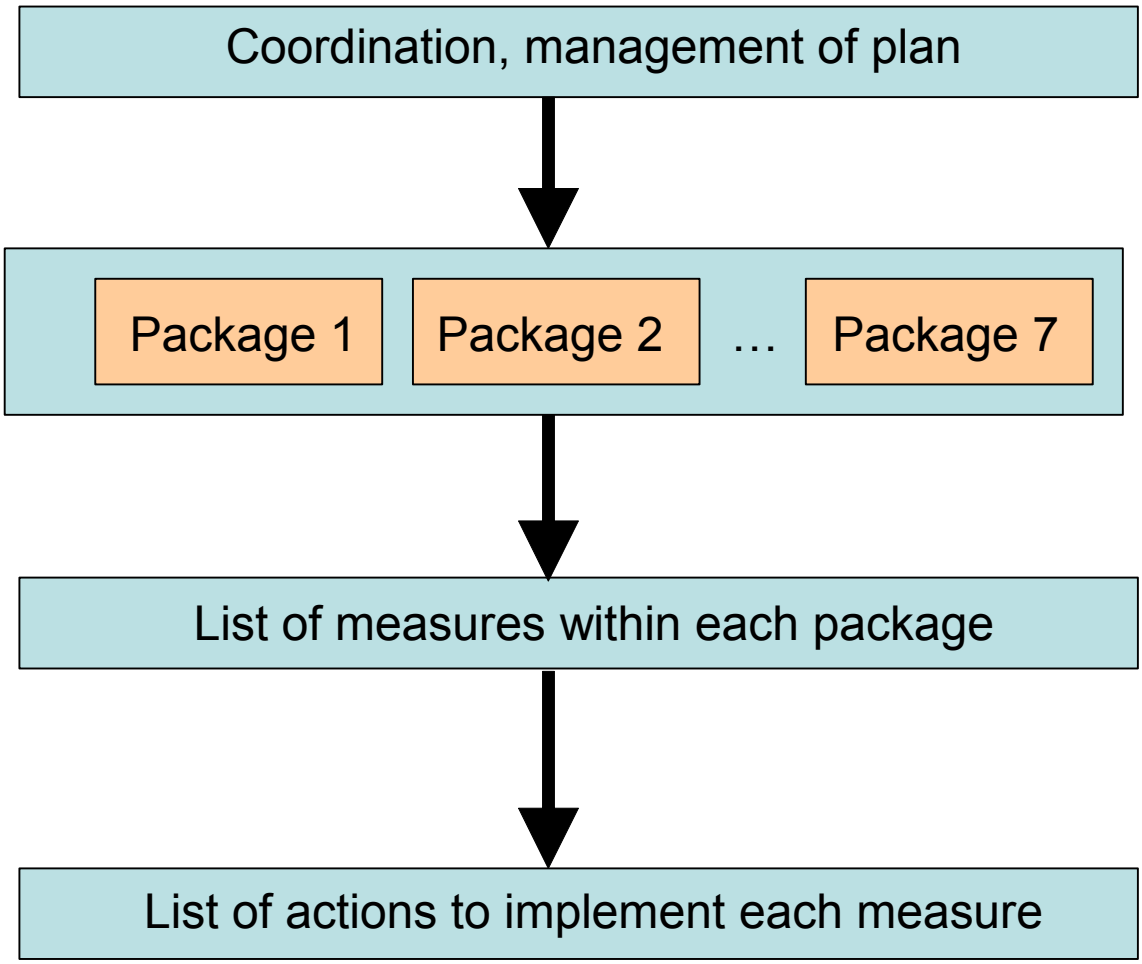



**Figure 5. Structure of the action plan**

## 5.1 Resourcing the Plan

### 5.1.1Funding

Given the large number of measures contained in the plan, implementation will be a complex task. For the plan to generate improved air quality it is therefore essential that sufficient resources are given both to its management and to the options adopted under it.

Despite the brevity of this section, adequate resourcing is critical to the success of the plan. There is no point in taking forward an adventurous and apparently dynamic plan if it will not be backed up by adequate funding for staff and the options selected for adoption.

### 5.1.2Borough Spending Plan Bids

Many of the measures in the action plan are clearly transport related and the implementation of these actions will be intrinsically linked with the delivery of the Borough Transport Strategy. Transport for London, through the Borough Spending Plan (BSP), will provide a major source of funding for local transport improvements.

In addition, a £50,000 bid for air quality work under the 2004/05 BSP was successfully made which will go towards the funding of the AQAP.

### 5.1.3West London Transport Spending Plan Bids

It is envisaged that regional transport actions will be addressed via bids for funds on a West London basis. The West London Air Quality and Transport group has been successful in this over the past two bids and will continue to use this approach to obtain funding for regional transport actions.

### 5.1.4Section 106 Agreements

Another source of funding for the action plan is the Section 106 Planning Obligations. It is recognised by government in their guidance note that where the impact of air emissions from a proposed development cannot be addressed by the imposition of planning conditions, it may be appropriate to enter into a planning obligation under Section 106 whereby a financial contribution is made to mitigate or offset the impact on air quality. The Environment Committee endorsed this approach in 2002 through the ratification of the Air Quality Supplementary Planning Guidance. Section 106 funding has since been successfully negotiated on air quality grounds for a number of development schemes.

### 5.1.5Support Capital Expenditure

Since 1997/98, Government support for capital expenditure on air quality management has been provided by awards of Supplementary Credit Approvals (SCAs). In the past few years, this has provided an important source of funding for much of the air quality work being carried out. From

2004/05, support for air quality capital expenditure will be provided as ring fenced Support Capital Expenditure (Revenue) SCE and replaces SCAs. Projects aimed at developing or implementing elements of AQAP such as consultation workshops, public information campaigns and measures which have been included in the AQAP, for which there is no other source of funding, are eligible for SCE bids. Hillingdon have been successful each year in obtaining SCA money and will continue to ensure this source of funding is addressed.

### 5.1.6BAA Heathrow

It is anticipated that BAA would be responsible for financing measures that are specific to Heathrow Airport, Further consultations and discussions with neighbouring authorities and BAA via the Heathrow Air Quality Working Group would be required to formulate the necessary implementation mechanism.

### 5.1.7National Government and Proposal for a Third Runway at Heathrow

As referred to in other parts of the Action Plan, the Government, via the 'Future of Air Transport' White Paper, have recognised the need for urgent action in the Heathrow area with regard to improving air quality, even without the addition of a third runway. Hillingdon should clearly take a prominent role in the '*urgent programme of work*' referred to, in order to reassure residents and others in the area that their concerns are taken into account and that all possible measures are looked into for improving air quality in this area. Hillingdon will require additional funding from Government or the airport for this work.

### 5.1.8Regional Actions

Whenever possible, actions that involve regional joint partnership working will be progressed on the basis of shared resources to reduce cost of implementation.

### 5.1.9Staffing

The actions required under this plan clearly require a significant amount of new work to be carried out by council staff in coordination of the plan. This clearly requires a significant commitment by the council to dedicate staff to this work.

## 5.2 Management of the Plan

Given the large number of options written into the plan, and the variety of different organisations and council departments that will be involved in the implementation of various options, the overall delivery of the plan needs to be well planned and co-ordinated. It is proposed that EMRC's Action Plan Tracker is used as the principal management tool for tracking progress with

each option. The plan is to be implemented by staff from Hillingdon's Environmental Protection Unit (EPU) acting under the existing Sustainability Steering group.

The following diagram demonstrates how the progress of the Action Plan is to be monitored within the Council's internal structure:

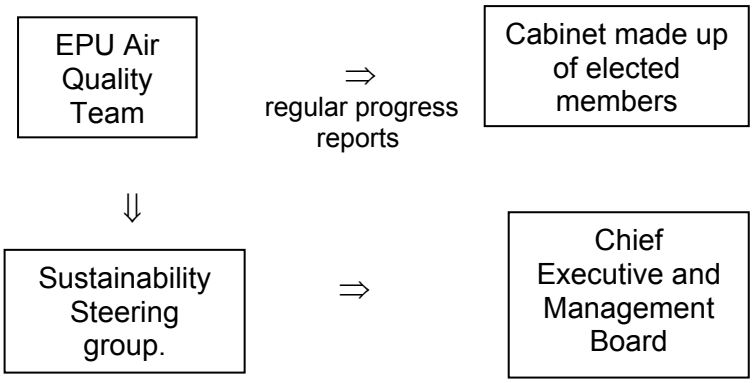



**Figure 6. Internal monitoring of the Air Quality Action Plan.**

The mechanisms for implementation of many of the measures identified are already underway in one form or another, or under consideration for example by the council's transportation team and BAA plc. The onus for the team responsible for this plan is thus to establish an effective mechanism for the exchange of information between the different parties involved using the Tracker to monitor progress.

The central coordination activities are listed in the table below. In all cases timescales are short and/or ongoing (e.g. continued monitoring of air quality. Management could be significantly strengthened and made more efficient by some of the measures identified under Packages 1 to 7, for example, establishment of the Environment Coordination Office.

| Activity | Responsibility | Funding | Timescale | Target |
|---|---|---|---|---|
| M1. Develop and maintain management system for implementation of the plan | EPU<br>Sustainability Steering Group Action Planning sub-group | | Ongoing<br><br>Short | Develop SMART targets for each measure |
| M2. Identify and secure all potential funding for Action Plan initiatives e.g.<br>• EPU via SCA<br>• Transportation via BSP and West London Transport<br>• Planning via section 106<br>• Highways via Car parking surplus<br>• EU funding opportunities | Sustainability Steering Group Action Planning sub-group | | Ongoing | |
| M3. Maintain, and where necessary expand, the existing air quality monitoring network | EPU | Potential SCA bid | Ongoing<br>Short | Review monitoring network and identify any potential gaps |
| M4. Review and assessment of air quality in line with DEFRA guidance | EPU | Potential SCA bid | Ongoing | |
| M5. Prioritise measures, providing a schedule for implementation | EPU | | Short | Prioritised list of measures, implementation schedule |
| M6. Provide progress report to DEFRA on annual basis | EPU | | Ongoing annually<br>Short | Ensure mechanism in place to quantify and review measures |
| M7. Review and adapt the action plan according to opportunity and circumstance | EPU<br>Sustainability Steering Group Action Planning sub-group | | Ongoing | Maintain awareness of new initiatives |
| M8. Maintain consultation process to disseminate information on progress against defined targets to other stakeholders | EPU | Potential SCA bid | Ongoing<br><br>Short | Define consultation process |
| M9. Examine potential for the development of regional action plan on cross boundary issues | EPU and neighbouring authorities | | Ongoing | |

## 5.3 Initial Implementation Plan

### 5.3.1 Management issues

This air quality action plan will develop over time to reflect progress against the air quality objectives and changing circumstances within the Borough. Progress and development of the action plan will be reported annually to the Cabinet as set out in Figure 6.

The initial implementation of the Action Plan involves identifying actions which could be carried out in the short term within the next 24 months. Many of the measures are either in the process of being implemented, or they are being regarded as high priorities because of local concerns. An example of this is the expansion of the Safe Routes to School Programme, where funding has already been set aside for the work. These actions are the 'quick wins' to show that the plan is capable of delivering results, and this in turn encourages and promotes public participation.

Development of a detailed implementation programme for each option is key to the success of the plan as it will determine the effectiveness of each of the measures included in it. The implementation programme is especially important in Hillingdon because of overlap with other action plans and strategies led by other bodies. Without effective collaboration there are serious dangers of confusion between different parties leading to a reduction in the cost-effectiveness of the plan as a whole.

It may become apparent during the implementation process that some options are either not working, or are inadequately resourced. Decisions will need to be taken as to whether these options should be taken forward or abandoned in favour of others that are proving more successful.

### 5.3.2 Initial actions for Hillingdon

The following highlights some of the options that Hillingdon will pursue in the early stages of plan implementation to demonstrate leadership of the process:

***Package 1: Switching to cleaner transport modes***

- Promote information on public transport, cycling and car club options.

***Package 2: Tackling through traffic***

- Hillingdon to liaise with HA, GLA and WLA to clarify roles and define how it will operate with existing fora in the future.

***Package 3: Promotion of cleaner vehicle technology and practices***

- Provide training for local authority drivers to minimise emissions, and consider opening training opportunities to other drivers working for businesses in Hillingdon.

***Package 4: Measures specific to Heathrow Airport***

- Hillingdon to liaise with BAA Heathrow to clarify role and define how it will operate with existing fora in the future.

***Package 5: Measures concerning local industry and other businesses***

- Adopt a best practice strategy for all proposed demolition and development projects. This will include the use of low emission vehicles and equipment and the use of dust minimisation techniques.

***Package 6: Improving eco-efficiency in the Borough***

- Hillingdon to develop sustainable procurement guidelines.

***Package 7: Actions to be taken corporately, regionally and in liaison with the Mayor***

- Establish an Environment Coordination Office for more effective integration of actions to improve environmental performance within and outside the Council.

***Assessment and Development***

- Hillingdon to assess the air quality impact of the First Steps as part of its review and assessment duties.
- Based on information gathered during the first year of plan implementation, Hillingdon to develop a plan for implementation in future years.

# Chapter 6 Useful Sources of Information

## 6.1 Websites Specific to Hillingdon

Borough Council's website:
http://www.hillingdon.gov.uk/
Air quality website:
www.hillingdon-air.info/
List of Part B industrial processes:
http://www.hillingdon.gov.uk/environment/epu/air_partb_list.php
Heathrow Airwatch website:
www.heathrowairwatch.org.uk

A number of documents describing the assessment of air quality in Hillingdon have been produced. Those listed below are the most recent and have been used directly to inform the development of this action plan. These and others are available for inspection on the Hillingdon web-site and at the Environmental Services Reception in the Civic Centre. Alternatively copies can be ordered from Hillingdon's Environmental Protection Unit, contact details for which are given on the inside front cover of this paper.

CERC (2002) Source Apportionment for Hillingdon, Hounslow and Spelthorne. Final report prepared for the London Borough of Hillingdon by Cambridge Environmental Research Consultants Ltd. December 2002.
CERC (2003) Scenario testing for Hillingdon, Hounslow and Spelthorne. Final report prepared for the London Borough of Hillingdon by Cambridge Environmental Research Consultants Ltd. February 2003.
Hillingdon Borough Council Stage 4 Review and Assessment Report.
Hillingdon Borough Council Air Quality Updating and Screening Assessment.

## 6.2 Websites for Neighbouring Councils

### 6.2.1 London Borough of Brent:

Borough Council's website:
www.brent.gov.uk
Air Quality site:
http://www.brent.gov.uk/ehealth.nsf/97adad6ff206607c8025663c0065c536/1c834ed875d1754d80256a81002f416c!OpenDocument

### 6.2.2London Borough of Ealing:

Borough Council's website:
www.ealing.gov.uk
Air quality site:
http://www.ealing.gov.uk/services/pollution+control/air+quality+.asp

### 6.2.3 Hammersmith and Fulham Council

Borough Council's website:
http://www.lbhf.gov.uk
Air quality site:
http://www.lbhf.gov.uk/index3.htm

### 6.2.4 Harrow Council

Borough Council's website:
http://www.harrow.gov.uk/portal/homepage.jsp?g11n.enc=UTF-8
Air quality site:
http://www.harrow.gov.uk/content/environment/pollution/air_quality/air_quality.jsp

### 6.2.5London Borough of Hounslow:

Borough Council's website:
www.hounslow.gov.uk

### 6.2.6 London Borough of Richmond Upon Thames

Borough Council's website:
http://www.richmond.gov.uk/
Air quality site:
http://www.richmond.gov.uk/depts/env/envplanning/health-special/airquality.htm

### 6.2.7 Slough Borough Council:

Borough Council's website:
www.slough.gov.uk
Air quality site:
http://www.slough.gov.uk/LocalEnvironment/airindex.asp

### 6.2.8 Borough of Spelthorne:

Borough Council's website:
www.spelthorne.gov.uk
Air quality site:
http://www.spelthorne.gov.uk/web/services/environment/air-quality.html

### 6.2.9 Surrey County Council:

County Council website:
http://www.surreycc.gov.uk
Air quality site:
http://www.surreycc.gov.uk/sccwebsite/sccwspages.nsf/LookupWebPagesByTITLE_RTF/Air+quality?opendocument

### 6.2.10 Three Rivers District Council:

District Council website:
http://www.threerivers.gov.uk/

## 6.3 National Air Quality Strategy

Guidance on action planning has been produced by DEFRA and the Welsh Assembly (jointly) and by the NSCA in an initiative supported by DEFRA:

- Part IV of the Environment Act 1995: Local Air Quality Management Draft Policy Guidance. DEFRA/Welsh Assembly, 2002.
- Air Quality Action Plans: Interim Guidance for Local Authorities, NSCA, 2000.
- Air Quality: Planning for Action. Part 2 of the NSCA's Guidance on the Development of Air Quality Action Plans and Local Air Quality Strategies. NSCA, 2001.
- Air Quality Action Planning Helpdesk, funded by DEFRA and run by Casella Stanger and TTR (Transport Travel Research) Ltd.: http://www.stanger.co.uk/jointprojects/DEFRA-Home.asp?jointprojectid=10
- Further information on the national air quality strategy can be found at http://www.defra.gov.uk/environment/airquality/index.htm
- Further guidance for local authorities can be found at: http://www.airquality.co.uk/archive/reports/reports.php?action=category&section_id=6
- In developing the strategy DEFRA has commissioned a substantial amount of research, which is accessible at: http://www.airquality.co.uk/archive/reports/reports.php?action=category&section_id=2
- The Environment Agency has also provided guidance on improving urban environments in the documents 'Our Urban Future: Putting the environment at the heart of urban renewal' and the more detailed assessment 'The Urban Environment in England and Wales'.

## 6.4 Information on EU Legislation

Information on the legislation developed on air quality by the European Commission can be accessed through:
http://europa.eu.int/comm/environment/air/index.htm

## 6.5 Local Plans and other Documents

AEA Technology and others (2003) The London Low Emission Zone Feasibility Study: A summary of the Phase 2 report to the London Low Emission Zone Steering Group. Prepared for the Association of London Government, Mayor of London, Transport for London, Department for Transport and DEFRA.

BAA (2002) Heathrow Air Quality Strategy and Action Plan 2001-2006.

Cobbing, C. and Beale, V. (2002) Air Quality Impact of the Proposed Third Runway at Heathrow. Scrutiny Committee Report 19th September 2002. Environmental Protection Unit, London Borough of Hillingdon.

DfT (2002) The Future of the Air Transport in the United Kingdom: South East, Department for Transport, July 2002.

DfT (2003) The Future of Air Transport. White Paper produced by the Department for Transport, December 2003.

Hillingdon Local Agenda 21 (2000) Our Common Future – A Strategy for Hillingdon.

HIMP (2002) The Hillingdon Plan for Improving Health and Reducing Inequalities 2002/03 – 204/05. The Health Improvement and Modernisation Plan (HIMP). Hillingdon NHS.

ILIP (2001) Interim Local Implementation Plan 2002-2003. Jean Palmer, Head of Planning and Transportation, Environmental Services Group, London Borough of Hilingdon. July 2001.

GLA (2002) Cleaning London's air, The Mayor's Air Quality Strategy.

GLA (2003) Green light to clean power, The Mayor's Draft Energy Strategy.

Laxen, D. (2002) Appraisal of BAA Heathrow Air Quality Strategy and Action Plan, 2001-2006. Prepared by AQC (Air Quality Consultants) on behalf of the London Borough of Hillingdon, November 2002.

LBH. (2002) Hillingdon's Borough Spending Plan 2003-04. Jean Palmer, Head of Planning and Transportation, Environmental Services Group, London Borough of Hilingdon. June 2002.

LBH (2002) Air Quality: Draft Supplementary Planning Guidance to the Hillingdon Unitary Development Plan. Planning and Transportation Services, London Borough of Hillingdon.

LBH (2004) Draft Borough Transport Strategy. London Borough of Hillingdon, April 2004.

GLA (2002) Cleaning London's air, The Mayor's Air Quality Strategy.

GLA (2003) Green light to clean power, The Mayor's Draft Energy Strategy.

GLA (2004) The London Plan.

ORBIT – Transport solutions around London', Orbit study final report, Government Office for the South East, November 2002.

SERAS (South East and East of England Region Air Services Study). http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_503769.pdf

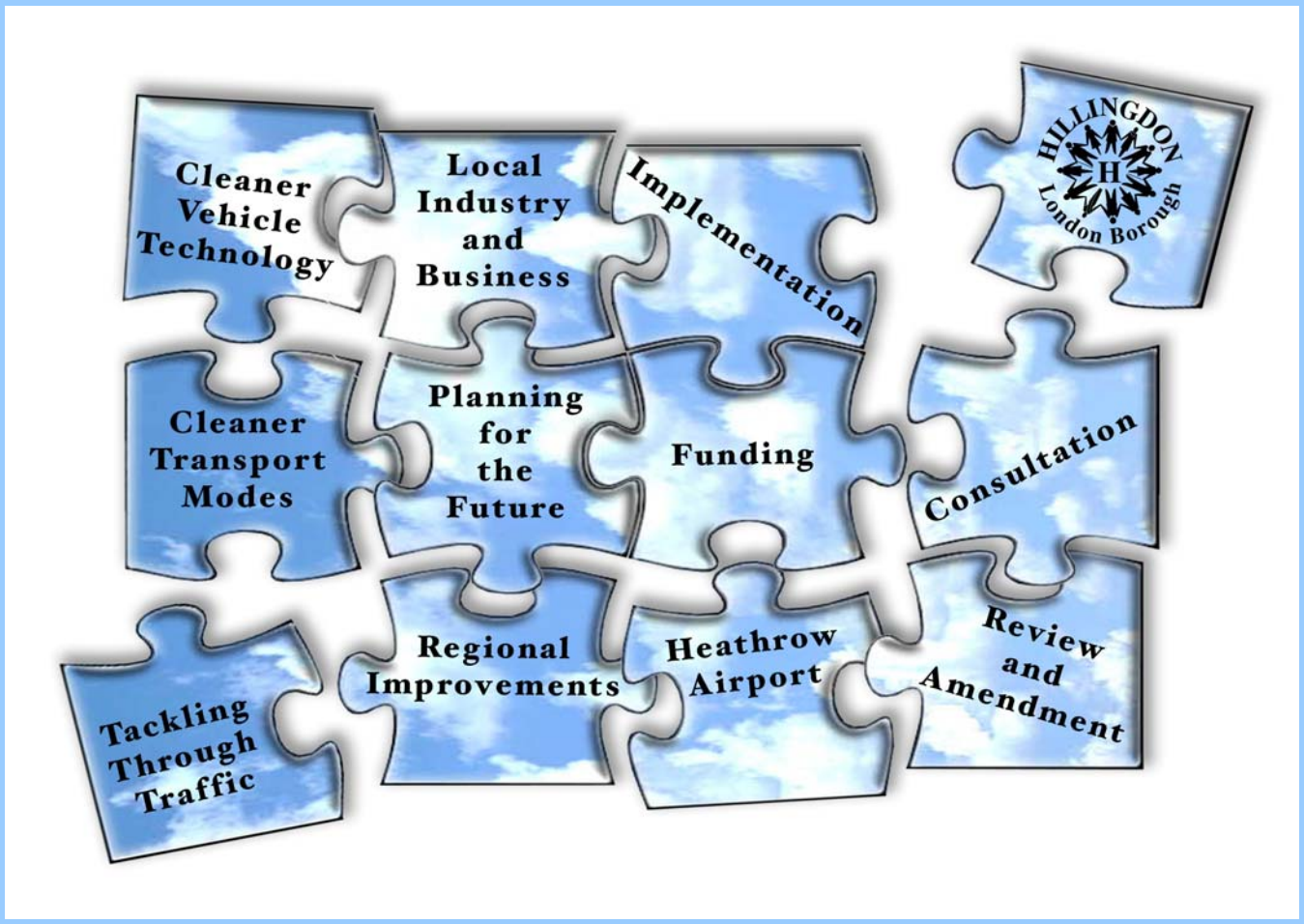
Sub-Regional Transport Strategy of the Association of Councils in the Thames Valley

SWARMMS: 'London to the South-West and South Wales Multi Modal Study', Government Office for the South West, May 2002.

WS Atkins, Thames Valley Multi-Modal Study (TVMMS) Final report, January 2003.

Hillingdon Unitary Development Plan, Planning services, London Borough of Hillingdon, adopted 1998.

WLA (2003) Air Quality and Transport Actions: West London Baseline Study. West London Alliance, Draft Final Report, January 2003.


Cleaner Vehicle Technology
Local Industry and Business
Implementation
HILLINGDON
H
London Borough
Cleaner Transport Modes
Planning for the Future
Funding
Consultation
Tackling Through Traffic
Regional Improvements
Heathrow Airport
Review and Amendment