ISLINGTON
getting greener

Air Quality Action Plan

August 2003

Foreword

If there is one issue that affects everyone in Islington, it is surely the quality of the air we breathe.

This Air Quality Action Plan contains a comprehensive series of measures that will help improve air quality and work towards achieving the national objectives for nitrogen dioxide and particles.

Implementing the plan will depend not merely on the Council, but on close co-operation with a wide range of other bodies including the Primary Care Trust, the Mayor of London, the GLA, and other London Boroughs. Most importantly, however, the success of the plan depends on the support of the Borough's residents, businesses, and visitors. By working together, we can achieve real improvements in air quality.

Islington Council is committed to making the Borough a greener and more environmentally friendly place to live and work, and we recognise that air quality is fundamental to our health and the quality of our lives.

Councillor Bridget Fox

Joint Deputy Leader of the Council &

Executive Member for Sustainability

Executive Summary

Studies of air quality in Islington undertaken by Islington Council have shown that some of the Government's air quality targets are unlikely to be met. Action is required to improve air quality in the borough. This Air Quality Action Plan details the measures that Islington Council is taking and intending to take which improve air quality.

Most of the air pollution in London is caused by road traffic, and Islington Council's Air Quality Action Plan reflects this by including measures to both reduce the pollution emitted from the vehicles on the borough's roads and to reduce the amount of traffic on the roads.

Islington Council is also implementing measures to reduce air pollution from non-road sources such as industrial activities and domestic heating.

Further copies of this document are available from the Islington Council website at www.islington.gov.uk or by contacting the Pollution Team on 020 7527 3840.

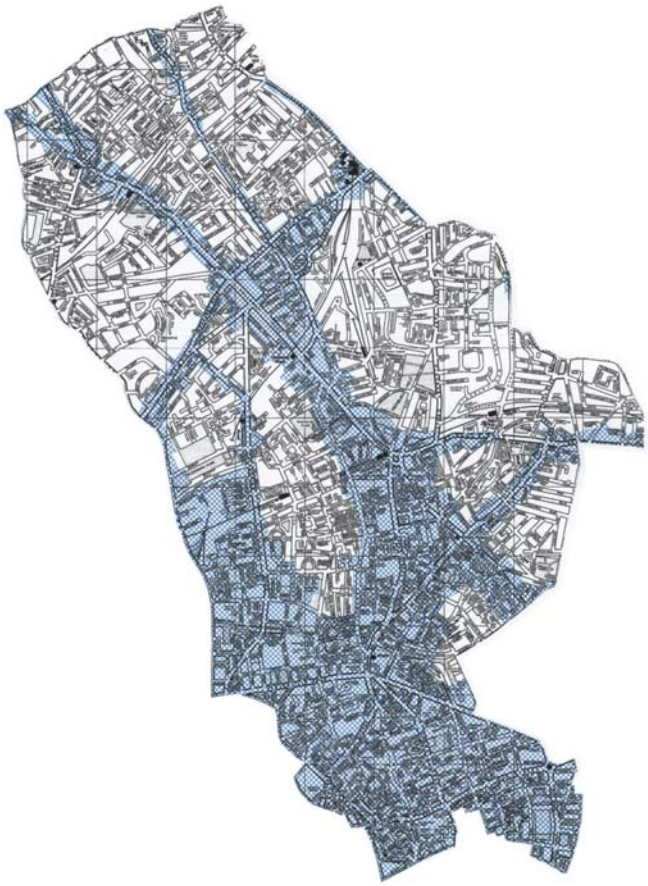
Table of Contents

1 Background

In 1997 the Government produced a National Air Quality Strategy (NAQS) with the aim of reducing air pollution to levels that do not cause a risk to human health (see Appendix 1 for a summary of the causes and effects of common air pollutants). The NAQS requires all local authorities to undertake a stage by stage process of reviewing and assessing air quality in their areas against set objectives for seven pollutants (see Appendix 2). Where it is unlikely that one or more of the objectives will be met, the local authority must declare an Air Quality Management Area (AQMA). The local authority must then carry out a further review and assessment of air quality and produce an action plan to describe the steps to be taken to meet the air quality objectives.

In August 2000 Islington Council completed it's third stage review. The review showed that despite an expected steady improvement of air quality in Islington over the following years, the objectives for two pollutants, nitrogen dioxide and particles are not likely to be achieved. As a consequence the Council declared an Air Quality Management Area across a large part of the borough on the 19th of January 2001 (see Figure 1 below).

Figure 1. Islington Air Quality Management Area 2001



All authorities that have declared an Air Quality Management Area are required to carry out a further assessment of air quality in the designated area. Islington Council published its Further Assessment of Air Quality in Islington in July 2003.

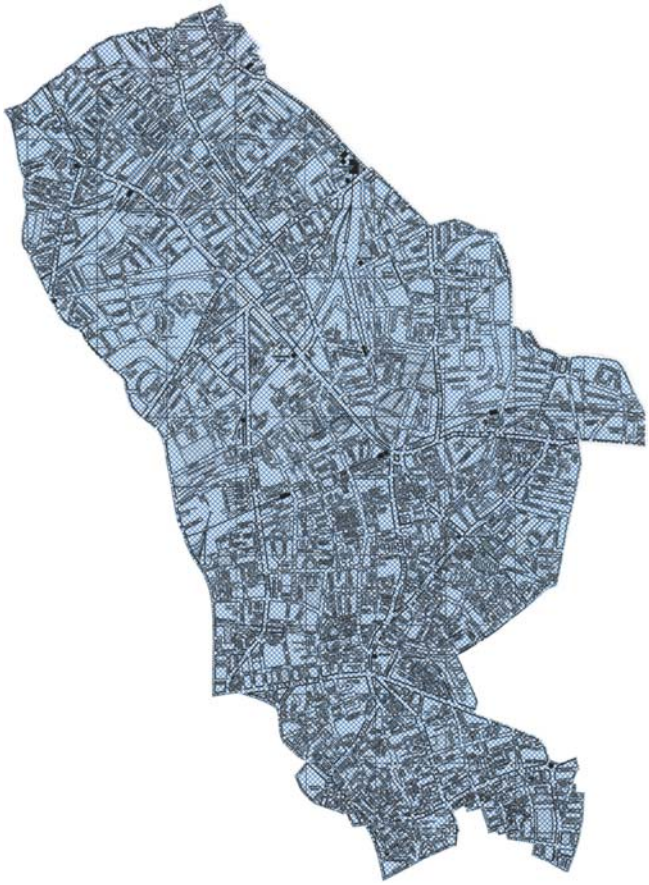
The main purpose of the further assessment of air quality is to allow Islington Council to supplement the information that was gathered in earlier reviews and assessments of air quality and to provide the technical justification for the measures included in Islington Council's Air Quality Action Plan.

The computer modelling carried out for the Further Assessment of Air Quality in Islington predicted that the annual mean objective for nitrogen dioxide (NO_2) will be exceeded over the whole of Islington. Concentrations are predicted to exceed 52µg/m³ along the busiest roads, compared with the objective level of 40µg/m³. The hourly mean objective for nitrogen dioxide is predicted to be exceeded at only the busiest of road junctions in Islington.

The model has predicted that the annual mean objective for particulates (PM_{10}) will be met over the whole borough by 2004 with the existing policies in place. The 24 hour objective for PM_{10} is predicted to be exceeded only at some of the busiest road junctions.

As a consequence of the predicted exceedences of the NAQS objectives Islington's Air Quality Management Area was extended to cover the whole of the borough. Figure 2 below shows the extent of the Air Quality Management Area designated by Islington Council in April 2003.

Figure 2. Islington Air Quality Management Area 2003.



The Further Assessment of Air Quality in Islington details the source apportionment work carried out to investigate the origin of the air pollution in the borough. The source apportionment work has a vital role in ensuring that this air quality action plan

is proportionate and properly targeted at those sources responsible for most of the pollution in the borough.

The source apportionment work has shown that up to 78% of NO_x (and NO_2) and up to 98% of particulate pollution concentrations measured in Islington come from sources outside the borough. These statistics show clearly how important it is to work in partnership with other local authorities and organisations outside Islington in order to reduce air pollution levels.

Of the pollution sources in London, road traffic is shown to be the single most important contributor to pollution levels in Islington. It is estimated that up to 63% of NO_x concentrations measured in Islington comes from road traffic in London. The measured particulate pollution concentrations are dominated by the background levels, but road traffic is shown to be responsible for 72% of PM_{10} emissions from London.

Road traffic is made up of several classes of vehicle. The overall contributions to pollution concentrations of both NO_x and PM_{10} from the different classes of vehicle are roughly equal. Cars are responsible for about a third of both NO_x and PM_{10} concentrations measured. Light Goods Vehicles contribute less NO_x but more PM_{10}, whilst the reverse is true for Heavy Goods Vehicles. The results show that there is a need to reduce the overall levels of traffic on our roads and to make more efficient use of the road-space.

Although road traffic is the largest local contributor to air pollution levels, there are significant contributions from other sources. Gas use for heating domestic and commercial buildings accounts for about 41% of NO_x emissions in Islington. Up to 25% of measured NO_x concentrations at background locations in Islington comes from gas use in central heating systems.

2 Introduction

This document sets out the actions that Islington Council is taking and intending to take which improve air quality in the borough. The actions described include those taken by the Council on its own, and those taken in partnership with the local community, local businesses, and regional and national agencies.

This action plan has been written in accordance with guidance issued by the Department for the Environment, Food and Rural Affairs (DEFRA), the former Department for the Environment, Transport and the Regions (DETR), and the National Society for Clean Air and Environmental Protection (NSCA).

This air quality action plan has been developed within the context of Islington Council's vision and key priorities. These have been reproduced below.

A number of the Council's themes and priorities are reflected in the air quality action plan. Environmental responsibility is made explicit and the quality of the environment improved.

The Council's vision

Our aims

- Everyone who works for the Council is an ambassador for Islington
- Everyone who lives in Islington has a right to a good service
- Everyone who works in Islington should see the Council as a valued partner.

Our themes

- Putting people first – involving local people as far as possible in the services that affect their lives
- Civic pride
- Environmental responsibility
- Opportunity and equality for all
- Partnership working.

Our key priorities

- Performance improvement – turn around areas of poor performance and re-design services around the needs of customers
- Regeneration – culturally vibrant, economically robust and socially harmonious communities, comprising empowered individuals
- Environmental sustainability to underpin everything the Council does, and encourage residents and businesses to 'be green' themselves
- These policy priorities are being delivered through and putting people first and empowering communities and individuals.

This action plan seeks to be consistent with other Council policies such as the Unitary Development Plan and the transport related Interim Local Implementation Plan, and also to be consistent with the aims of the Mayor of London's Air Quality

and Transport Strategies. A list of guidance and other relevant documents is contained in Appendix 3.

Road traffic plays a major part in determining the air quality in Islington. However, air pollution comes from a wide variety of sources and the action plan reflects this by including actions relating to domestic, commercial and industrial activities as well as road transport. This action plan draws on all the measures that Islington Council is taking where air quality will benefit and also seeks to show how these actions have a wider significance.

The main text of this document describes the actions that the Council is taking to work towards the air quality objectives. The action plan has also been summarised in tabular format in Chapter 7 entitled Delivering the Air Quality Action Plan.

The guidance for air quality action plans also place a requirement on the local authority to consider the cost effectiveness of the actions contained in the action plan. A full assessment of the costs and benefits of the actions in terms of health effects would be beyond the scope of this document. However, an attempt has been made to provide indicative costs and benefits of the actions. The table details timescales, responsibilities within Islington Council, an assessment of cost effectiveness, wider consequences and overall priority for the individual actions.

Appendix 4 contains explanations of abbreviations used and other technical terms.

3 General Policy Measures

3.1.1 Air Quality Management Area

Subsequent to the declaration of the Air Quality Management Area in January 2001, Islington Council has carried out a further review and assessment of air quality in the borough. This latest review and assessment, called the Further Assessment of Air Quality in Islington, has allowed the Council to supplement the information gathered from earlier review and assessment work. The Further Assessment of Air Quality also provides a technical justification for the measures contained in this action plan. Specifically, the further assessment of air quality allows Islington:

- To confirm the original assessment of air quality and to show that the Council was right to declare the Air Quality Management Area in the first place;
- To calculate more accurately how much of an improvement in air quality will be required to deliver the air quality objectives within the Air Quality Management Area;
- To refine our knowledge of the sources of air pollution so that Islington's Air Quality Action Plan is properly targeted;
- To take account of any local or national policy developments which have come to light since the Air Quality Management Area was declared, and which were not factored in to the earlier assessment work;
- To report on further real-time monitoring of air quality carried out in the borough;
- To investigate whether the assumptions on which the Air Quality Management Area has been based are still valid, and to check whether amendments to the designated area are required.

The modelling work in the Further Assessment of Air Quality in Islington has shown that the annual average objective for nitrogen dioxide is predicted to be exceeded over the whole of Islington. This is a departure from previous review and assessment work and reflects the increases in the vehicle emissions factors for NO_2 contained in the February 2002 London Atmospheric Emissions Inventory as compared to the version that was used in the 3rd Stage review. Predicted reductions in NO_2 emissions are now smaller than previously thought.

Islington revoked the Air Quality Management Area Order of January 2001 and has issued a new Order on the 29th April 2003 to declare the whole of the borough as an AQMA. The new Air Quality Management Area will reflect the current predicted extent of exceedence of the annual average objective for nitrogen dioxide. The new Air Quality Management Area covering the whole of the borough will also allow the Council greater flexibility to introduce policies aimed at reducing air pollution in all parts of the borough.

A consultation exercise was carried out between November 2002 and March 2003 to invite comments from the public on the proposal to redraw the Air Quality Management Area boundary. All the comments received indicated a preference for the Air Quality Management Area to be extended over the whole of the borough.

3.1.2 Development Plans

The maintenance and improvement of the environment is an essential part of the Council's overall strategy. A 'Policy for Islington's Environment' was first adopted in

October 1989 and has been subsequently updated. Since then the Council has also worked with representatives of the local community to develop a Local Agenda 21 strategy for Islington.

Although Islington has many positive features, concerted action is required to improve the quality of the environment by improving the design of buildings, bringing vacant land back into use, planting more trees, controlling pollution, limiting road traffic, conserving energy, enhancing personal safety and improving accessibility.

Islington's Unitary Development Plan contains guidance which emphasises that the role of the land use planning process is to facilitate development while protecting the local environment. The Council will continue to tackle environmental problems through planning powers, linking in with other agencies where appropriate and through continuing environmental improvement schemes, good practise initiatives and education.

Specifically, it is a policy contained in the Council's Unitary Development Plan to minimise noise, pollution and nuisance and to improve air quality. The Council is concerned that the air and water quality in Islington is the highest possible. In considering development proposals it will:

- Seek to prevent the pollution of water supplies,
- Avoid detrimental alterations to air quality and microclimate, and
- Minimise light pollution.

Wherever possible the Council will also seek improvements to air and water quality.

When considering applications for new developments and changes of use, the Council will seek to protect or enhance the amenities of the area. In particular, planning permission will not be granted to developments which cause unacceptable levels of noise, smell, smoke, air pollution, vibration, danger or other forms of disturbance or nuisance, either directly or as a result of the traffic generated by the scheme.

In determining planning applications, it will be important to consider the impact of a development in terms of air quality. This includes both the operational characteristics of the development and the traffic generated by it. Where the impact of the development is likely to be significant in air quality terms, then provided the impact relates to the use and amenity of land, the planning application may be refused or the impact mitigated by imposing conditions. The Council will also encourage developments which promote public transport, walking and cycling above use of the private car. In implementing this policy it will be essential for the Council to liaise closely with adjoining authorities.

The Council will require appropriate methods of assessing the environmental performance of new developments and provide supplementary planning guidance on air quality if considered necessary.

3.1.3 Green Procurement Policy

The Council has developed a green procurement policy. When purchasing on behalf of the Council, staff should have regard to environmental considerations along with other criteria such as cost, performance and life expectancy. Environmental considerations can include air quality where appropriate.

3.1.4 Monitoring Air Quality

The monitoring of air quality in Islington is crucial if well informed policy decisions are to be made on matters that could affect pollution levels in the air. Islington has two automatic monitoring stations. One is located at the Council offices at 159 Upper Street and the other in a purpose built cabin on the footpath near the junction of Holloway Road with Camden Road. The Upper Street site continuously monitors levels of airborne particulates and nitrogen dioxide whilst the Holloway Road station monitors airborne particulates, nitrogen dioxide and carbon monoxide. In addition diffusion tubes are also located at 19 sites for the measurement of nitrogen dioxide.

The automatic monitoring stations are run for the Council by the Environmental Research Group at King's College London. The results are provided to Islington Council on a monthly basis. Islington Council's Pollution Team publish air quality bulletins showing the results of the monitoring along with basic information on air pollution matters. In addition the Environmental Research Group produce reports on the air quality in the London Air Quality Network (LAQN), of which Islington is a part, every three and twelve months. Data from Islington's air quality monitoring sites are also reported to consultants AEA Technology Environment who run the UK National Air Quality Information Archive and produce reports covering air quality in the UK. Islington's air quality bulletins are also made available on the Council's website at www.islington.gov.uk.

To find out more about the London Air Quality Network, please contact the Environmental Research Group, 4th Floor, Franklin-Wilkins Building, 150 Stamford Street, London SE1 9NN, or via the internet at www.erg.kcl.ac.uk/home.asp. To find out more about the National Air Quality Information Archive please visit www.airquality.co.uk.

Islington Council has purchased two portable particulate monitors to complement and add to the existing air quality monitoring equipment. The results from these monitors will be used to further inform the Council about the quality of air in the borough.

3.1.5 Staff objectives

Council staff and their managers are required to agree performance objectives for their work at the beginning of each year and to review them at the end of the year. The Environment and Conservation department will make it a requirement for staff to include an objective to show how they will consider air quality in their duties.

3.1.6 Staff induction

The Council staff induction pack includes information on how staff can operate in a manner which is consistent with the principles of sustainability. The staff induction pack will be improved by the addition of explicit advice on how Council staff can help to reduce air pollution.

3.1.7 Health Authority liaison

We will work with the Islington Primary Care Trust to obtain data and statistics to inform and support the Council's air quality policies.

3.1.8 Trees

The Council's Greenspace division holds that the number, condition and location of trees in the borough plays an important role in mitigating air pollution.

Islington Council has a written policy for trees. The policy recognises the benefits of trees in improving air quality. A number of actions are detailed in the policy, of which the following are relevant to air quality:

- Surveying all streets in the borough in order to create a database, identify gaps and improve maintenance (survey completed),
- Surveying all trees on housing estates in the borough,
- Working to maximise amount of open space in the borough, and
- Introducing sustainability statements in new grounds maintenance contracts, including restrictions on vehicle and other petrol engine use in parks.

3.1.9 Carbon Assessment and Reduction in Regeneration Areas (CARRA)

CARRA is a study, unique to Islington, which sets out to test the concept, application and effectiveness of a carbon budget for reducing carbon dioxide (CO_2) emissions in an inner city regeneration area. The study which is funded by the European Union LIFE programme will initially focus on the EC1 New Deal area in the south of the borough, and if successful consideration will be given to extend the scheme across the whole of Islington.

Action projects are planned to engage and involve people in climate change issues in the EC1 New Deal area. The five action projects identified are:

- Energy Ambassadors, to recruit and train relevant organisations and individuals in energy efficiency information so that advice can be given to residents,
- Schools and Climate Change project, to educate young people about energy efficiency and climate change,
- Roscoe Street tower blocks, to include works to improve the energy efficiency of the towers,
- Schools Travel Action Project, to promote cycling and walking to and from school, and
- Small and Medium-sized Enterprises project, to engage SMEs in action to improve their energy use and efficiency.

The action projects will be undertaken in partnership with appropriate organisations, including the Peabody Trust, Islington Energy Efficiency Advice Centre and London Metropolitan University.

Actions taken to reduce carbon monoxide emissions and to improve energy efficiency can also have associated benefits in reduction of nitrogen dioxide and particulate pollution.

4 Road Traffic Related Action

Islington Council's Further Assessment of Air Quality in Islington has shown that of all the local sources of air pollution road traffic is the single most important. It is estimated that about 44% of NO_x emissions and 72% of PM_{10} emissions from within Islington come from road traffic. It therefore follows that in order for this action plan to be successful, there needs to be included a wide variety of actions taken to reduce the effect of road traffic on our air quality.

Islington Council is responsible for traffic and transportation matters relating to all roads in the borough with the exception of some of the larger roads, which are part of the Transport for London Road Network (TLRN). The Council is therefore in a strong position to influence the layout and use of our roads.

Traffic volumes through Islington are high, which in turn leads to heavy congestion and slow average speeds and long journey times. The reduction of road traffic is central to the Council's sustainable transport strategy. The Council is committed to reducing road space for private motor vehicles and the promotion of sustainable modes of transport in order to bring about significant improvement in the quality of the local environment.

4.1 Zoning

4.1.1 Low Emission Zone

A Low Emission Zone (LEZ) is a defined area that bars entry to certain categories of high polluting vehicles that do not comply with set emission standards. The rationale being that air quality would be improved by providing an incentive to owners and businesses of vehicles affected to adopt cleaner engine technologies, or buy newer, cleaner vehicles.

The concept of a Low Emission Zone was pioneered in Sweden in the 1990s. A study is being undertaken by the Association of London Government (ALG) and the Greater London Authority (GLA) on the feasibility of introducing a Low Emission Zone for London. Phase II of the London Low Emission Zone feasibility study was published in July 2003. The study recommends a London LEZ that includes all of the Greater London area and which targets lorries, London buses and coaches initially. The air quality benefits of the London LEZ are predicted to be modest in improving overall emission levels and absolute air quality concentrations in London. The recommended LEZ would have greatest impact in targeting PM_{10} emissions and exceedences of air quality objectives.

The study states that the London LEZ could not be implemented before late 2006. Consequently the London LEZ could not help in the achievement of the current air quality objectives for 2004 and 2005.

No new powers are required to set up an LEZ as local authorities are able to use Traffic Regulation Orders under the Road Traffic Regulation Act 1984 to ban certain classes of vehicles. The types of vehicles and the standards to be met have not been set by Government, but can be decided upon by the local highways authorities.

Islington Council believes that an LEZ for London would be beneficial to the borough. The Council is currently working with the Association of London Government, the

Greater London Authority and other London boroughs to arrive at a joint decision on whether to implement a London LEZ.

Further information on the London LEZ proposal can be found at www.london-lez.org.

4.1.2 Freight Management

The TLRN network in Islington together with many of the borough roads carry longer distance heavy freight traffic through Islington. Some of the TLRN roads are exempt from the London night-time and weekend lorry controls. Much of the borough's own freight requirements are served by smaller vehicles. Servicing and deliveries to Islington's main shopping centres and other commercial centres can cause problems. Traffic congestion, lack of kerbside space, lack of rear servicing and difficulties in manoeuvring can frustrate deliveries. The use of nearby residential streets to avoid such problems temporarily blocks access and intrudes into the local environment. The inefficient movement of heavy freight around Islington does nothing to improve the air quality. The Council is considering setting up a freight quality partnership to tackle these issues.

Although this Council endorses advice in Planning Policy Guidance note 13 that local authorities should encourage the carriage of freight by rail or water, the rail and canal infrastructure is not currently equipped to compete for further road freight.

In order to discourage excessively overloaded lorries, the Council will continue to maintain a weighbridge on Holloway Road and a lorry pound facility nearby to enable enforcement action against severely overloaded lorries passing through Islington.

The Council supports the London night-time and weekend lorry controls on all heavy vehicles over 18 tonnes except those qualifying for special exceptions.

The Council has its own local 7.5 tonne lorry ban areas. These aim to balance the importance of goods access to local businesses with the environmental concerns of local residents. The Council will continue to monitor the movement of Heavy Goods Vehicles and will consider the introduction of further lorry ban areas as necessary.

The Council will consider assessing the scope for the use of priority lanes by freight vehicles and the implications for other road users.

4.1.3 Reduced Speed Residential Traffic Zones

The Council aims to reduce traffic speeds in residential areas with its Speed Management Plan. The basis of the scheme is one of reduction of road accidents, but an additional benefit will be that of better air quality. The speed management plan aims to reduce vehicle speeds by a combination of driver education, physical road features and enforcement.

In parallel with the speed management plan, the Council has already identified some residential areas for the introduction of a 20mph zone.

4.1.4 Reducing Traffic Congestion

The congestion charging scheme for central London, introduced on Monday 17th February 2003, is a key part of the Mayor of London's Transport Strategy. A significant portion of Islington lies within the congestion charging zone. Islington Council is supportive of the principles and objectives of congestion charging in

London. Reducing congestion on London's roads will help to improve air quality in the Capital.

Islington has been pursuing several schemes aimed at reducing traffic in different zones within the borough. These measures and initiatives are complementary to the introduction of congestion charging and have significant benefits in their own right. These measures include traffic calming, 20mph zones, parking control and enforcement, and travel awareness.

The areas where traffic reduction schemes are being implemented are:-

- Barnsbury
- West Canonbury
- East Canonbury
- St. Peter's
- Amwell Street area.

The aims of the traffic reduction measures in these areas include a reduction in numbers of vehicle journeys and a slowing down of traffic on local roads.

Air quality modelling was carried out as part of the Further Assessment of Air Quality in Islington out to investigate the effects of various traffic reduction scenarios on ground level concentrations of nitrogen dioxide and particulates. The scenarios modelled, which all represent the year 2005, are described below.

- **10% traffic reduction.** This traffic reduction scenario is intended to investigate the effect of the central London congestion charging zone on air pollution concentrations in Islington. Adjustments to traffic flows have been made for three different areas:

  within Inner Ring Road: 10% reduction in the number of cars, HGVs and LGVs; along the Inner Ring Road: 8% increase in the number of cars, HGVs and LGVs; between Inner Ring Road and North/South Circular: 1% reduction in the number of cars, HGVs and LGVs.

- **15% traffic reduction.** This traffic reduction scenario is also intended to investigate the effect of the central London congestion charging zone on air pollution concentrations in Islington. In this scenario, the effect of the congestion charge on traffic numbers is assumed to be greater than that in the previous scenario. Adjustments to traffic flows have been made for three different areas:

  within Inner Ring Road: 15% reduction in the number of cars, HGVs and LGVs;

  along the Inner Ring Road: 9% increase in the number of cars, HGVs and LGVs; and

  between Inner Ring Road and North/South Circular: 2% reduction in the number of cars, HGVs and LGVs.

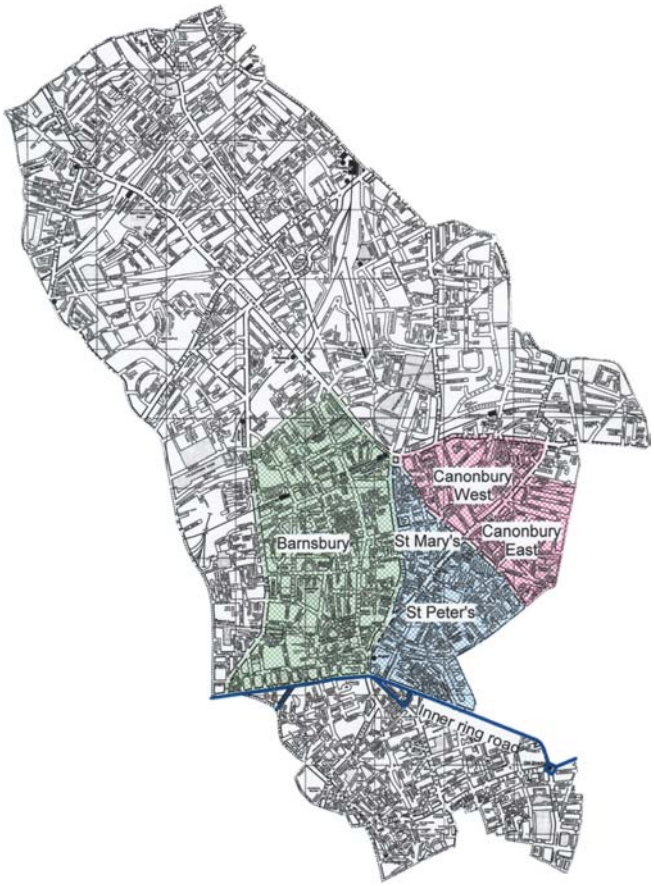
- **15% traffic reduction plus additional traffic reduction areas.** In this scenario the effect of Islington's traffic reduction areas are investigated together with the central London congestion charging zone. The traffic reduction factors applied are the same as for the 15% traffic reduction scenario but with the following additional reductions to car, HGV and LGV flows applied:

  within the Barnsbury, Canonbury East and Canonbury West traffic reduction areas, a further reduction of 10%; and

  within the St Peter's and St Mary's traffic reduction areas, a further reduction of 5%.

The location of the traffic reduction areas investigated are shown in Figure 3 below . The location of the inner ring road is also shown in Figure 3, inside which is the central London congestion charging zone.

Figure 3. Islington traffic reduction areas



The computer modelling predicted that the traffic reduction scenarios would each result in less than a 1% reduction in the pollution concentrations measured in Islington.

The air pollution concentrations measured in Islington are dominated by pollution sources outside the borough and by background sources from outside London. In considering this it is maybe not surprising that a small reduction in emissions from within Islington and central London has very little effect on predicted pollution concentrations in the borough.

4.1.5 Clear zones

A Clear Zone is a defined urban area which exploits new technologies and operational approaches to improve quality of life and support economic growth, whilst minimising the adverse impacts of its transport systems.

A Clear Zone seeks to provide a liveable, accessible and lively urban centre where traffic congestion, pollution, noise, stress and other negative impacts of mobility are eliminated or limited, through the implementation of a package of transport related measures using innovative technologies. Clear Zones can be used to develop

partnerships between local authorities and the private sector to pursue this common vision of transport, environmental and community improvements.

The objectives of a Clear Zone are already compatible with many existing policies of Islington Council. The Council will consider the benefits of seeking the implementation of a Clear Zone in the borough.

4.2 Public Transport

Islington enjoys a high level of accessibility by public transport. There are 10 London Underground stations in the borough of Islington, not including King's Cross, Barbican and Moorgate stations just across the borough boundary, and 10 National rail stations. In addition, the borough is served by 41 high frequency bus routes, one low frequency bus route and 19 night bus routes. Nonetheless there is a need for improvements in service coverage, quality and reliability in some instances. The availability of affordable, reliable, convenient and safe public transport services is important if people are to use it as a viable alternative to owning and using a car.

Although the Council is not a direct provider of services, it is firmly committed to supporting measures to improve quality, reliability and accessibility. This is being progressed through the development of Quality Partnerships with service providers.

4.2.1 Buses

The convenience and attractiveness of bus travel depends on both quantity and quality of service. Increased bus travel can prevent congestion and help reduce air pollution. The Council is working with Transport for London Street Management to implement further bus measures, such as bus lanes in conjunction with the London Bus Initiative Partnership and its BusPlus programme. This programme aims to achieve modal shift from car to bus, and ultimately result in reduced road congestion.

In addition, the Council is working in partnership with TfL London Buses, the bus operators and other relevant agencies to improve and increase bus travel through:

- enhanced parking enforcement along bus routes,
- reviewing waiting and loading restrictions where bus movement is impeded,
- bus priority measures to protect bus stops such as cages and build-outs, and
- raised kerbs and paving to facilitate access to buses.

London Buses commitment to the partnership, in conjunction with operators includes:

- qualitative improvements involving reliability, driving standards and exhaust emissions, and
- investigation of service enhancements to routes and night bus services.

Contact with the operators is maintained especially concerning detailed operational issues. Islington Council also works closely with TfL London Buses regarding the pattern of bus services, including new services and changes to the existing network.

Regular monitoring of the effectiveness of the partnership between Islington Council and London Buses has been established through officers' Public Transport Co-ordination meetings where quality of service issues are discussed. The Council is

anxious that public opinion should be monitored, especially in regard to the new levels of enforcement that are being established on bus routes.

Funds were awarded to Islington Council for a review and upgrade of restrictions on existing bus routes and enhanced enforcement on routes. New bids will be made for funds to allow this essential work to continue.

The Council has reviewed its parking enforcement strategy and is placing greater emphasis on enforcing main bus corridors. The Council is establishing a team of parking attendants with dedicated software to concentrate on bus routes in the borough.

The Council also wishes to introduce a capability of issuing offence notices for parking and bus lane contraventions by means of fixed closed circuit television installations. Due to the high capital investment required, the Council will continue to bid for funding to implement this scheme where possible.

Islington Council is also working in partnership with TfL Street Management to implement further bus measures, such as bus lanes, as happens currently with the BusPlus programme through membership of the London Bus Initiative Partnership. This programme aims to achieve modal shift from car to bus, and ultimately to reduce congestion on the roads.

Over the next few years low floor buses will be in service on a significant proportion of Islington routes. Provision is being made for this in accordance with 'Bus Stop Layouts for Low Floor Accessibility' June 2000, produced by the London Bus Initiative Partnership. The benefits of the low floor buses are dependent on good access to the kerb at stops. The Council recognises the need to prevent parked vehicles from obstructing this access and is committed to introducing bus stop clearways to all stops in the borough.

The Council established in 1999, an agreement with TfL London Buses and a bus shelter supplier for the installation of shelters at all stops where footway width and circumstances permit, to improve passenger comfort. At present 85% of all stops in the borough are provided with shelters, making Islington better provided than most other urban areas in the country. Maintenance and cleaning is undertaken by TfL London Buses and the shelter supplier staff on a regular scouting basis.

Islington is continuing to develop a strategy for the improvement of public transport information. London Buses are pursuing a programme of Countdown installations in bus shelters. Priority has also been given in the Council's work programme to complimentary measures such as improved street lighting, streetscape improvements, adjacent waiting and loading restrictions and the provision of Countdown cabling and power supplies.

The Council is also keen to work in partnership with other London Boroughs to finance "School Bus Attendants". The Council receives complaints, both as a highway authority and as an education authority about unruly children on buses and at bus stops. No financial support was forthcoming when a joint bid was made in 2001/02 so the initiative was not progressed. The Council will instead seek funding for a pilot scheme of one year duration.

4.2.2 Railways and Underground

The provision of tube and rail services into London from outlying areas contributes to a reduction of car-borne commuter traffic in the borough.

The Council will support extensions to the London Underground and national railways networks, including additional services, improved interchange facilities and other improvements to stations

4.3 Charging and Enforcement

4.3.1 Roadside Emission Testing

The Road Traffic (Vehicle Emissions)(Fixed Penalty)(England) Regulations 2002 which came into force on the 18th July 2002 provide adoptive powers to local authorities with Air Quality Management Areas to enable them to require motorists to have their vehicle emissions tested at the roadside. The local authority can issue a fixed penalty notice if the vehicle fails the emission standard by producing too much pollution.

Islington Council has worked in partnership with 27 other London Boroughs, the Association of London Government and the Greater London Authority to set up a joint scheme across London for roadside vehicle emissions testing. The scheme which is due to start in August 2003 will mean that any vehicle being driven in the 28 participating boroughs can be stopped and have its emissions tested. A uniformed police officer will stop vehicles at the roadside and a qualified tester will check the vehicle's emission levels. If the vehicle fails to meet the standards required, then the driver may be issued with a fixed penalty notice requiring the payment of a £60 fine. This fine can be reduced to £30 if the vehicle is corrected within 14 days.

4.3.2 Engine Idling

The Road Traffic (Vehicle Emissions)(Fixed Penalty)(England) Regulations 2002 also grant new powers to local authorities to enable them to require motorists to switch off their engines if they have been left idling unnecessarily.

The Council will undertake a pilot study of these new powers in known problem areas or in response to complaints.

4.3.3 Parking Charges

As a direct incentive to residents to use smaller engined or alternatively fuelled cars, the Council has introduced a reduced "green" charge for parking permits within the Controlled Parking Zones (CPZ). Vehicles with engines less than 1400cc capacity or those powered by low and zero emission engines (LPG, electric, hybrid etc) pay approximately 25% less for their parking permits. The table below gives the current price comparison.

Permit length (months)	**12**	**6**	**3**	**2**	**1**
Normal charge	£95	£56	£35	£26	£13
Reduced "green" charge	£75	£42	£28	£20	£10

The parking charges are reviewed at periodic intervals and the success of the reduced charge can be assessed. The Council will aim to increase the discount for low and zero emission vehicles.

4.4 Infrastructure

4.4.1 Refuelling Infrastructure

The Council recognises that promotion of cleaner alternative fuels relies on the infrastructure being in place to support the refuelling of vehicles using the cleaner fuels. Islington Council will provide a Liquid Petroleum Gas (LPG) refuelling station for use with Council vehicles at a Council depot at Lough Road in 2004. This refuelling station will be vital for the success of the Council's policy to reduce the emissions from its own vehicle fleet (see 4.5.5).

The Council will look to provide an on street charging facility for electrically powered vehicles in the borough. We will acquaint ourselves with the work of The London Clean Fuel Vehicle Working Group in respect of electric refuelling.

The Council will also write to all the managers of refuelling service stations in the borough promoting the benefits of cleaner fuels.

4.4.2 Traffic Calming

Traffic calming and traffic management schemes help to improve air quality by promoting walking and cycling, by protecting access roads from through traffic and by providing opportunities for other environmental improvements such as tree planting.

As part of its traffic reduction strategy, the Council will promote a programme of traffic management and calming schemes on local roads to reduce traffic in residential streets, to improve the environment and to benefit pedestrians and cyclists.

4.4.3 Improved Cycling Provision

Cycling is a pollution free mode of transport and a healthy leisure activity and as such is promoted and encouraged by Islington Council. The Council has a local cycling strategy that contains a number of measures to improve the cycling environment and thus increase cycle use. The local cycling measures programme comprises five sub-programmes of specific schemes as follows:

- provision of secure cycle parking facilities,
- advanced cycle stop lines at signalled junctions,
- cyclist access through point road closures,
- completion of the borough cycle route network and local links additional to the London Cycle Network, and
- measures to address local cyclist concerns which arise, and are not met under the above.

Islington also participates in cross-borough initiatives in the London Cycle Network, such as Business Cycle which seeks to encourage cycling to work.

4.4.4 Improved Walking Provision

Walking is an activity that most members of the community can do. It is a healthy activity and offers people the simplest form of exercise. Encouraging people to switch from their car to walking can also help to reduce air pollution.

The Council will seek to increase the proportion of all journeys made on foot. This will be achieved by:

- Pedestrian crossing improvement programme
- Development of pedestrian routes that link residential areas with town centres, and
- Walking initiatives as part of the Finsbury New Deal

Audits will be carried out of the quality of access on foot to all key destinations in the borough to identify where improvements are needed.

4.4.5 Road Signage

The Council will continue to work with Transport for London (TfL) to undertake a review of traffic signage on major routes within the borough, to ensure that signs are clear and visible in order to minimise circling of traffic.

4.5 Schemes

4.5.1 Traffic reduction

The Council has, as a part of its strategy to deal with local traffic congestion problems, developed an integrated programme to reduce congestion. The key measures undertaken by the Council are detailed below.

- Area Traffic Reduction

  These schemes also incorporate other measures including pedestrian and cycling improvements, particularly on routes to schools, accident remedial works, and are in some instances being combined with the roll out of a programme of controlled parking zones. The Council, working with Transport for London will be using changes to traffic signal phasing at junctions on the boundaries of residential areas to control traffic levels passing through.

- Efficient Traffic Movement

  The Council believes that efficient traffic movement can only be achieved by taking positive steps to discourage unnecessary journeys by car, improvements to public transport and in particular, to ensure the unimpeded movement of buses. It is also necessary to encourage through traffic to remain on primary routes. Through traffic in residential areas leads to congestion and has a detrimental effect on the local environment including air quality.

- Local Signage

  Islington Council is currently working with Transport for London to improve local signage on primary routes including the A1. Improved signage reduces unnecessary journeys and associated vehicle emissions.

- Traffic Signal Related Proposals

  The Council will be reviewing signal timings and promoting the introduction of bus priority transponders on local bus routes to reduce journey times. The Council also intends to continue a programme of upgrading pedestrian facilities at signal junctions, including new installations.

4.5.2 Traffic speed management

The management of speed offers significant social, environmental and economic benefits as well as being central to road safety. Vehicles travelling at a slower steady pace use less fuel and therefore produce less air pollution than vehicles accelerating hard to high speeds and having to break hard to slow down. Islington's speed management plan aims to adopt a holistic approach to reducing vehicle speeds by focusing on education of drivers, by using physical measures to reduce speeds on the roads, and by improved enforcement of speed limits.

The key measures undertaken by Islington Council are detailed below.

- Influencing the awareness and attitudes of drivers

  The Council is currently developing a pre-driver educational programme in partnership with other agencies in order to influence the attitudes of young people towards driving and to raise the awareness of the consequences of speeding. In addition the Council is working with employers in the borough to manage the speed of their drivers.

- Using physical measures to reduce speed on roads
- The Council will seek to make changes to the road network where it has the powers to do so. Some of the changes sought are:

  Mandatory and advisory cycle lanes, to make routes look narrower,

  Traffic islands to discourage overtaking and help people cross the roads,

  Zebra and pelican crossings to make crossing the road easier,

  Junction changes such as roundabouts on long straight roads,

  Co-ordinating traffic lights to encourage smoother traffic at slower speeds,

  Reviewing speed limits,

  Speed tables in exceptional circumstances and subject to agreement with the emergency services,

  Build outs where there are safety concerns,

  Speed cushions,

  Chicanes, and

  Mini-roundabouts.

- Improving the compliance with speed limits

  In order to improve compliance the Council continues to work in partnership with the police to target areas with speeding problems.

Some areas have also already been prioritised for the introduction of a 20mph zone and these are described below.

- Ten Estates

  This zone is bound by Pentonville Road, Penton Street, Caledonian Road and Copenhagen Street.

- Canonbury West

  This zone is bound by St Paul's Road to the north, Essex Road to the east and Canonbury Road to the west.

- Canonbury East

This zone is bounded by Ockenden Road to the north, Southgate Road to the east, New North Road to the south and Essex Road to the west.

Islington Council is working in conjunction with Camden and Haringey to implement a series of 20mph corridors along some boundary roads. Islington Council considers that the introduction of a programme of 20mph corridors provides a strong signal and a joint commitment to reduce the speed of traffic on residential streets which also carry significant traffic.

4.5.3 Green Travel Plans for Employees

A Green Travel Plan is a means by which local authorities and organisations such as hospitals and businesses can manage the transport needs of their staff in order to reduce the environmental impact of travel to and from work. A Green Travel Plan is essentially a package of measures developed in conjunction with staff, other users and the relevant transport agencies, designed to promote the use of public transport, cycling, walking and shared cars for commuting and work related journeys.

As the largest employer in the borough, the Council recognises that it has a responsibility to lead in reducing car dependency in journeys to work and promoting alternative modes of transport. The Council has carried out a survey of current travel patterns of its employees and has recently employed a Green Travel Officer to formulate a Green Travel Plan for the Council.

The Council's Green Travel Plan is currently being drafted with a target date for a launch in September 2003. A specific aim of the Green Travel Plan will be to reduce the Council's contribution to local air pollution.

The Council will encourage large employers in the borough to prepare and implement Green Travel Plans. In appropriate cases it will also seek a commitment to such plans during negotiations on major development.

4.5.4 Green Travel Plans for Schools

The school run is a major contributor to traffic levels in London, and is therefore a significant source of air pollution. Walking to school can create benefits for health, education, social interaction and reduce pollution exposure.

The Council will aim to significantly increase walking, cycling and public transport as the principal means of travelling to school. Islington's safer routes to school projects are already in progress to facilitate this objective in the borough. However, it is important to work with individual schools to develop school travel plans.

Road safety campaigns can help to increase walking to school, and Islington Council has several schemes in this regard.

- Safer Steps 1 & 2: Pre-School and Key Stage 1

  The Safer Steps Project aims to build the foundations of Pre-School and Key Stage 1 pupils road safety knowledge.

- Practical Pedestrian Training: Year 4

  With the help of the class teacher and parents or school helpers, the project aims to allow pupils the time to develop the skills and experiences necessary to be a safe pedestrian.

- Junior Road Safety Officer :Year 6

  The main aim of the scheme is to give children the opportunity to promote a number of different road safety topics to the rest of the school community during the academic year.

- Young Voyager: Year 6

  The Young Voyager project is designed to equip young people with the skills they will need to make a safe transition from Primary to Secondary school.

- Why Did the Chicken Cross The Road: Year 7

  The number of children killed and seriously injured as cyclists and pedestrians peaks in early secondary school when pupils start to make more journeys independently. "Why Did The Chicken Cross the Road?" is a fast moving drama performance aimed at this age group.

- Walk to School Week: Whole School

  Walk to School Week is a national initiative co-ordinated by Living Streets (formally the Pedestrian Association). The initiative is an excellent opportunity to highlight in Islington, the problems arising from many pupils being driven to school.

All new school buses bought by Cambridge Education Department on behalf of Islington Council will be equipped with cleaner Euro III engines.

4.5.5 Reducing the emissions from the Council's own fleet

Islington Council has a fleet of 399 vehicles, distributed to a number of departments and managed in partnership with ICSL Accord, the Council's contractor for fleet management and street cleansing. The majority of the vehicles are cars, small and medium vans under 3.5 tonnes. There are also larger vehicles (over 5 tonnes) such as refuse vehicles, school buses and a gritter. No Council vehicles are older than 5 years old.

Islington Council is committed to implement a programme for the acquisition and replacement of its vehicle fleet that maximises the use of clean fuels and reduces harmful emissions. The Council will also encourage other organisations and individuals in the borough to adopt similar practices.

The transport manager is currently pursuing a strategy of greening the fleet with ICSL to reduce the emissions from the Council's vehicles. The main elements of the strategy are fitting particulate traps (Continuously Regenerating Traps, or CRT), moving to Liquid Petroleum Gas (LPG) as a fuel and purchasing vehicles which meet Euro III emissions as a minimum. The rate at which the vehicles are replaced with greener vehicles is governed by the length of time that existing vehicle contracts have to run (mostly 5 year contracts). The opening of an LPG refuelling facility in the borough will complement the greening of the Council's vehicle fleet (see 4.4.1).

Islington Council has retrofitted seven of its existing heavy goods vehicles with (CRT) particulate traps and five new vehicles have been purchased with particulate traps already in place. All new vehicles above 7.5 tonnes added to the fleet will be fitted with CRT particulate traps and will run on low sulphur diesel. All remaining heavy goods vehicles will be retrofitted with particulate traps on a rolling programme.

Smaller vehicles (<3.5 tonnes) are being replaced on a rolling programme by LGP vehicles to coincide with the opening of the LPG filling station planned at Lough Road during 2003/04.

Vehicles used in Islington Council's recycling operations are electrically powered. The Council also has a dedicated recycling vehicle that is powered by LPG. LPG powered vehicles can provide significant air pollution emission savings when compared to diesel or petrol vehicles.

The Council will trial the use of electrically powered vehicles for the use of the Environment and Conservation department.

The Council has contacted the Energy Saving Trust to enquire about the availability of financial assistance through the Powershift and Cleanup schemes to pursue further improvements to the Council's vehicle fleet.

The Council will compile a register of fleet vehicles that includes emissions information and measures to implement emissions improvements.

The Council will consider adopting the Mayor of London's emissions criteria for waste and recycling vehicles.

The Council will consider the use of ultra-low sulphur diesel and water-diesel emulsion instead of conventional diesel for all existing diesel vehicles.

4.5.6 Raising Public Awareness through the Council Website

Islington Council's website contains a dedicated section for the provision of air quality information to the public. Every air quality bulletin, showing graphs of the results of our automatic air quality monitoring equipment, is posted on the website, along with a link to the London Air Quality Network website, tips for greener driving and downloadable copies of key Council air quality documents.

The content of the web site is constantly under review and improvements and additions are made as required.

4.5.7 Raising Public Awareness through Campaigns

The Council supports and participates in 'European Car Free Cities Day' and 'Don't Choke London'.

4.5.8 City Car Club

As part of its sustainable transport strategy, the Council supports the joint London City Car Club Initiative between the London Boroughs of Camden, Islington, Kensington & Chelsea, Lambeth, Merton and Brent.

London City Car Club is launching it's first car station* in Islington in Highbury Crescent, in September 2003, offering local residents and businesses an alternative to car ownership. Members pay a monthly fee to join the club, and a 'pay-as-you-drive' cost to drive car club vehicles by the hour. The vehicles are booked using a hi-tech in-car booking system, which allows the user to 'swipe' into the vehicle with a smart card, and use a PIN-protected computer to activate the reservation. The vehicles will be parked on the street, in dedicated 'City Car Club only' bays.

The project is being delivered in partnership between Islington Council and Smart Moves, the largest operator of car clubs in the UK.

The benefits of City Car Clubs include:

- One city club vehicle replaces at least 5 privately owned cars and seven planned purchases,

- Reduces first and second car ownership,
- Club members increase their use of public transport by two thirds after joining the scheme, and
- Club cars are generally newer and therefore less polluting than privately owned vehicles.
- The London City Car Club makes significant use of duel-fuel vehicles which are less polluting than conventionally fuelled vehicles and are exempt from the central London congestion charge.

Individual members are offered a choice of leased cars, convenient access to local reserved parking, and a cost saving over and above annual car ownership. Residents and businesses have the freedom of choice to use a variety of different forms of transport, without worrying about the costs of the car they have left behind.

To find out more, please contact

Dan Taylor, Project Manager London City Car Club at United House, North Road, London N7 9DP. Tel 020 7700 2436 email dan@smartmoves.co.uk

Or

Eric Manners, Green Travel Officer, London Borough of Islington, 222 Upper Street, London, N1 1YA. Tel 020 7527 2771 email eric.manners@islington.gov.uk

*A 'car station' refers to a single location where one or more car club vehicles are parked.

4.5.9 Council car allowances

The Council will review its staff car user allowances in order to identify and implement reforms that will encourage the cleanest and most fuel efficient vehicles.

4.5.10 Incentives for staff who car share

Car sharing of journeys to and from work can have a positive affect on air quality be reducing the number of vehicle journeys. We will undertake a review of options for introducing incentives for staff who share their car journeys to work.

4.5.11 Season ticket loans

Islington Council has recently reviewed the interest rates charged on Council loans to staff for public transport season tickets. From May 1st 2003 the interest rates on the loan and the administrative charge have been removed altogether.

4.5.12 Cycling allowance

An allowance is paid to Council staff who choose to use their own bicycles for Council business. We will review the allowance paid to staff who use their bicycles to travel around the borough on official business and consider extending the allowance to all staff.

4.5.13 Car loans

Council staff making use of Council loans to purchase their car for work purposes will do so on the understanding that they can be called to the Council's vehicle emissions testing facility to ensure compliance with emissions standards.

4.5.14 Staff Pool Bikes

The Environment and Conservation department has provided 20 bicycles in a pool for staff use on visits.

4.6 Traffic Management

4.6.1 Parking Control

The Council recognises that parking controls can have a significant effect on choice of mode of transport. With the correct parking control policy, the Council can encourage the use of public transport, walking and cycling, thus helping to reduce vehicle emissions.

The Council's parking plan strikes a balance between traffic restraint and economic activity whilst meeting the hierarchy of parking need in the borough. The Council's programme involves a progressive implementation of Controlled Parking Zones (CPZs), which is recognised in the Mayor's Transport Strategy as being a particularly useful tool in managing competing demands for parking. Public consultation constitutes a very important part of the implementation of the Council's CPZ programme. The implementation of the CPZ process in Islington has also been streamlined by delegating to officers the decision to proceed from the results of the initial consultation to the development of a detailed design. The Council is currently funding the design, consultation and implementation of seven new Controlled Parking Zones.

Although the Council is seeking to extend those areas covered by controlled parking zones there still remain areas where the parking demands exceed the safe capacity of streets and the Council are unable to fund these schemes. In particular the local conditions around Underground and railway stations are attracting significant commuter parking. The Council is bidding for further funds for the design, consultation and implementation of two new CPZs, both of which are close to Underground stations on the Northern Line at Archway and Tufnell Park.

The monitoring of the effect of new controlled parking zones will be carried out by undertaking before and after surveys.

Islington Council is also carrying out a review of the waiting and loading times on roads across the borough. Bus routes are given a high priority to assist the free flow of buses.

A Controlled Parking Zone was created in 1993 to prevent visitors to Arsenal football club from taking up the local parking spaces on match days. It was extended north of Highbury stadium in 1997 and has now been extended eastwards into the Quadrant ward. A key improvement in the latest revision of the scheme is the provision of advance warning of parking controls to residents, business users and visitors.

The Council's revised policy on private non-residential parking is that it should be provided only for essential users up to a level which the developer can justify, subject to an absolute maximum limit. Essential users are:

- Registered disabled persons,
- Those working unsociable hours, ie arriving or departing between 10pm and 7am,

- Those who need to make three or more journeys in the same day (excluding to and from work)
- Those regularly needing to carry heavy or bulky goods, and
- Emergency services (eg. Doctors).

The need to control residential off-street parking is recognised. The revised Council standard for developments is set at a maximum of 0.5 spaces per dwelling. In the south of the borough, however it should be noted that a number of housing schemes, mainly office conversions, have been approved with no off-street parking.

In developing its Sustainable Transport Strategy, the Council has recognised the importance of gaining the support and understanding of the borough residents to the need for the promotion of environmentally friendly modes of transport. To this end, the Council has actively participated in national awareness campaigns such as 'Don't Choke Britain'. The Council has also joined the National Travelwise Association. Awareness activities are backed up by appropriate policies and measures.

5 Industrial Emissions

Although road transport accounts for the greater part of the emissions of both nitrogen dioxide and particulate pollution in Islington, a significant proportion comes from non-road sources. Islington's Further Assessment of Air Quality revealed that some 33% of nitrogen dioxide emissions and 22% of particulate emissions within the borough arise from commercial or industrial activities.

5.1.1 Schedule B processes

On April 1991, Part 1 of the Environmental Protection Act 1990 came into force. The regime established two pollution control systems in England and Wales:

- the Local Air Pollution Control (LAPC) system enforced by local authorities, and
- the Integrated Pollution Control system (IPC) enforced by the Environment Agency.

The Environmental Protection Act 1990, regulates air polluting processes in order to protect the environment. Operators shall apply the Best Available Techniques Not Entailing Excessive Cost (BATNEEC) to prevent or minimise pollution.

The Environment Agency is responsible for potentially the most polluting industries or those which are considered technically the most difficult (known as 'Part A Processes') and local authorities are responsible for those processes considered as medium polluting (known as 'Part B Processes').

Within the London Borough of Islington there are currently a total of eighteen processes authorised under the Environmental Protection Act 1990, and these include:

- One Part A Process, a Combined Heat and Power Station located in the South West corner of the borough. The Environment Agency monitors the site and surrounding area to ensure emissions of nitrogen oxides, sulphur dioxides, carbon monoxides and hydrocarbons are kept in line with what can be achieved within the limits of current technology.
- Two vehicle re-sprayers which are a potential source of Volatile Organic Compounds (VOC). Abatement equipment installed at these sites greatly reduces emissions to the atmosphere;
- One process which deals with blending, packing, loading and use of bulk cement, which is a potential source of dust emissions. Regulation ensures that abatement equipment and procedures are in place in order to minimise dust emissions from this site; and
- Fourteen petrol filling stations all of which have all been fitted with vapour recovery systems, which reduce emissions of volatile organic compounds when petrol is delivered to the service stations.

Islington Council will continue to work closely with existing authorised processes to ensure compliance with authorisations.

LAPC is being progressively replaced by a new regime under the Pollution Prevention and Control Act 1999. Under the new regime 'authorisations' are being replaced by 'permits'.

The new legislation is unlikely to significantly impact on the number and type of processes regulated in Islington. However tighter emission controls maybe required at certain sites owing to their geographical location.

We will encourage large commercial premises using oil for heating purposes to switch to gas.

We will continue to apply the Environmental Protection Act regime and the new Integrated Pollution Prevention Control regime in accordance with the timetable for implementation.

We will write to all authorised processes in the borough to encourage them to minimise emissions from their operations.

5.1.2 Construction Sites

Construction sites can be a major source of dust and suspended particles in the atmosphere. The Council has a number of powers available to tackle this problem including enforcement of statutory nuisance legislation and the imposition of planning conditions.

In addition the Council will seek to improve the situation through the co-operation of contractors and the adoption of its Environmental Code of Practice for Construction Sites. Adherence to the code can be secured either voluntarily, or through Section 106 planning agreements.

5.1.3 Commercial gas use

Please see paragraph 6.1.2 Energy Efficiency.

6 Domestic Emissions

Air pollution from the home comes from a variety of sources. One of the main sources of air pollution from residential premises is from heating systems. Islington's Further Assessment of Air Quality showed that 21% of NO_x emissions from Islington result from domestic heating systems.

6.1.1 Smoke Control Areas

The Clean Air Act 1956 was introduced as a direct response to the smogs in London in the early part of the 20th century. Over a ten day period in 1952, a thick fog sat over London which trapped smoke produced by industrial and domestic coal burning. The resultant high levels of smoke particles and sulphur dioxide over that period are estimated to have caused up to 4000 premature deaths, mainly due to bronchial difficulties in the very old or young.

The Clean Air Act 1956 introduced Smoke Control Areas to prohibit the burning of coal in domestic premises unless the fuel used or type of fireplace is of an approved type. The Act also regulated industrial emissions from boiler plant.

The whole of Islington is covered by Smoke Control Areas, along with the whole of Greater London and all major urban areas in the United Kingdom. Islington Council will continue to enforce the Smoke Control Areas.

It is the Council's intention to replace the many existing Smoke Control Areas with one Smoke Control Area for the whole of Islington.

6.1.2 Energy Efficiency

Emissions from heating buildings account for a significant proportion of London's air pollution. It is stated in the Mayor of London's Air Quality Strategy that about 21% of nitrogen oxides (NOx) emissions (the principal pollutant arising from burning natural gas), result from the heating of buildings by burning gas. Islington's Further Assessment of Air Quality also estimates that 21% of nitrogen oxides emissions within Islington come from the burning of gas in domestic heating systems.

Islington Council has a well-established policy to reduce energy use in Council buildings and the borough at large with a reduction in resulting emissions. The Council has a number of wide-ranging programmes co-ordinated by its Energy Centre to conserve energy in its day to day operations. They include:

- A comprehensive Monitoring and Targeting programme which includes annual energy health checks, ensuring all the Council's buildings, schools and leisure centres are operating efficiently.
- Our Building Energy Management Scheme is being overhauled and updated to provide remote monitoring and control of 8 housing communal heating systems. This will then be extended throughout the borough.
- The annual housing refurbishment programme is in the process of being "greened" to ensure all repair and replacement work carried out by the Council to improve its housing stock is energy efficient.
- The Energy Centre liaises closely with the Council's architects and engineers over all new build and refurbishment commissions.

- The Council is investigating the potential for renewable energy generation to be installed in three of its largest office buildings.
- A combined heat and power (CHP) feasibility study is to be carried out into the use of CHP to provide heat and power to the communally heated estates in the south of the borough, linking with other major energy consuming centres such as leisure centres, schools and commercial buildings.
- The Council is inviting tenders from renewable energy suppliers in this year's electricity tendering round.

Islington's Energy Efficiency Advice Centre provides free, impartial advice to the public on saving energy at home, reducing their gas and electricity bills and avoiding fuel poverty. The Centre provided advice packs to more than 3,500 Islington homes last year and distributed 1,500 free low energy light bulbs. A large number of local and national grants and schemes were promoted via our freephone helpline, events in the community and our shop front, including:

- Warm Front.
- Safe & Warm, which provides free or subsidised heating and insulation to residents in the Finsbury Park regeneration area: 130 households surveyed during the first three months of the scheme alone.
- Private Landlord Energy Award Scheme.
- Energy Efficient Installers network: a regulated network of heating, glazing and insulation installers who have been trained in energy efficiency.

Energy efficiency in building design is promoted through our planning guidance and via information leaflets sent out in response to all applications for planning permission.

The effect of reducing gas use on concentrations of air pollution in the borough was investigated as part of the Further Assessment of Air Quality in Islington. A computer model was used to test the effect of a 15% reduction in emissions from commercial and domestic gas appliances.

The computer model predicted that a 15% reduction in gas use would result in less than 1% reduction of measured nitrogen dioxide concentrations in Islington.

6.1.3 Bonfire information

Bonfires are an unnecessary source of air pollution and the Council wishes to discourage local residents from disposing of waste materials in this manner. The Council currently distributes leaflets with information on the affects of bonfires on air quality and the Council's main website will be improved to include similar advice.

6.1.4 Private Sector Housing Grants

Promotion of energy saving efficiency in private sector housing is promoted in Islington by providing housing grants specifically for energy saving measures and by requiring the applicant of a renovation or HMO grant to carry out energy saving measures as a condition of the grant.

7 Delivering the Air Quality Action Plan

7.1.1 Stakeholder involvement

For many years the Council has worked closely with other local authorities as part of the Central London Air Quality Cluster Group and statutory bodies including the Environment Agency (EA), Greater London Authority (GLA), Defra and the Association of London Government (ALG) to ensure that the Council's air quality policies are consistent with its neighbours and statutory bodies. In addition many of the actions in the plan have been the subject of widespread local consultation, for example the Controlled Parking Zone consultation process has been extensive and ongoing. We regularly meet our local voluntary sector groups such as the Agenda 21 working group, and local umbrella groups on traffic and the environment, such as 'The Pemberton Garage Working Group' and 'Islington Transport Aware'. A range of organisations responded to the third stage review and assessment of air quality, including local hospitals, prisons, transport providers and several small businesses. Further consultation will be carried forward through the Council's Business Partnership. Local residents will also be involved through the environmental exhibition roadshow and through reports to the four area committees, briefings to the local press and residents' Council newspaper and also through the Councils Air Quality pages on our website where they often direct queries. Staff receive regular information on the air quality process through a range of Council employee newsletters and magazines. The Eyes for Islington initiative, a group of local volunteers with a particular interest in environmental issues are also a forum for borough residents and businesses to feedback their views on the action the Council is taking on air quality.

7.1.2 Council decision making

One of Islington Council's key corporate priorities is a commitment to sustainability and to improving its environmental performance year on year, across all Council services. The Sustainability Board is the Council body charged with monitoring environmental performance and targets including the extension of CPZs across the borough, achieving traffic reduction targets and monitoring the performance of the Council's transport fleet. The Sustainability Board reports directly to the Council's Executive Board and Cabinet and is chaired by the Deputy Leader of the Council who is also Cabinet Member for Sustainability. This provides a direct link to the highest level of decision making in the Council.

The Sustainability Board will monitor the implementation of Islington's Air Quality Action Plan and review Council policies in areas such as Human Resources, Purchasing and Planning to ensure they are consistent with the Council's Air Quality Action plan and the wider Council objective of improving Islington's environmental performance across all Council services. The performance of the Council transport fleet was also selected as one of the first items for member scrutiny by the Sustainability Review Committee indicating the Council's prioritisation of air quality issues as one of its key concerns.

7.1.3 Cost Effectiveness of Actions

The guidance on producing the air quality action plan requires local authorities to consider the costs and benefits associated with the actions contained within this document. The purpose of assessing the cost effectiveness is to enable the actions to be prioritised in order to determine which of the actions are to be implemented and in what order.

The value of assessing the cost effectiveness of the actions is limited for a number of reasons. For example, many of the actions contained in this action plan were being carried out by the Council and its partners prior to the formulation of the action plan. Furthermore, other actions included in the action plan are statutory duties of the Council and therefore must be carried out regardless of the cost.

There is no accepted means for assessing the cost effectiveness of actions. A quantitative assessment is almost impossible to achieve given the difficulty in obtaining accurate costs and accurate measures of air quality impacts. The air quality impacts of 4 emission reduction scenarios were investigated for the Further Assessment of Air Quality in Islington, but each showed a minimal or undetectable impact on local air quality. For these reasons it is not considered appropriate to inform the action plan by using a quantitative method of prioritisation.

In order to provide a qualitative assessment of the costs and benefits of the actions a matrix has been developed. Each action is rated as being high, medium or low by assessing their costs and air quality impacts against definitions in Table 1 and Table 2 respectively.

Table 1. Cost rating definitions

Cost Rating	Definition
Low	Cost is covered by existing budget, or by fees from polluter.
Medium	Additional funding is required, but can be incorporated with forward planning.
High	Additional funding is required that cannot be incorporated into existing budget.

Table 2. Air Quality impact rating definitions

Air Quality Rating	Definition
Low	Impact is small and localised. Will be beneficial as part of a wider package of measures.
Medium	Impact is borough-wide.
High	Impact is City-wide in partnership with other organisations.

The air quality action plan confirms that the cost effectiveness of the actions are rated low, medium and high. The existing revenue budget within the Public Protection division is able to meet the costs of most of the actions defined within the low cost rating definition. Those actions categorised as medium or high could be subject to additional funding bids.

A matrix has been used to prioritise the cost effectiveness of the actions (see Table 3). Both cost and air quality impact ratings are represented in the matrix by ticks. Low cost actions receive three ticks, medium cost actions two ticks and high cost actions one tick. The actions giving rise to the air quality improvement rated as high receive three ticks, medium improvements two ticks and low rated improvements one tick. The results are banded so that actions receiving a total of two or three ticks are assessed as low priority, four ticks gives medium priority, and five or six ticks gives high priority (see Table 4).

Table 3. Costs and benefits assessment matrix

		Relative Air Quality Improvement		
		Low ✓	Medium ✓✓	High ✓✓✓
Relative Cost	Low ✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓✓
	Medium ✓✓	✓✓✓	✓✓✓✓	✓✓✓✓✓
	High ✓	✓✓	✓✓✓	✓✓✓✓

Table 4. Overall priority of action

Overall Priority				
✓✓	✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓✓
Low		Medium	High	

The actions contained in this action plan will have a greater chance of success where they enjoy public support and where they strike a balance between environmental and other objectives. The achievement of air quality objectives must therefore not be considered in isolation. The actions in this action plan have impacts on matters as diverse as noise, road safety, waste management and reducing poverty.

The results of the assessment of cost effectiveness of the actions and the summary of the wider implications are contained in the action plan summary table in section 7.1.6.

7.1.4 Health Impact Assessment

The Public Protection division of Islington Council is in the process of developing a Health Impact Assessment methodology for the services delivered by the division. The Air Quality Action Plan has been identified as a key document that will be assessed for health impacts when the methodology has been finalised. Officers responsible for drafting the Air Quality Action Plan are participating in the development of the HIA methodology.

7.1.5 Air Quality Action Plan Progress Reports

Local authorities are required to submit an action planning progress report following the completion of the final action plan. Islington Council will submit the first progress report on this air quality action plan to the Mayor of London and Defra in April 2004.

7.1.6 Action Plan Summary Table

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
General Policy Measures								
3.1.1	Air Quality Management Area	The Council has extended the Air Quality Management Area to cover the whole of the borough.	Environment and Conservation Department – Public Protection Division	April 2003	✓✓✓	✓✓	High	
3.1.2	Development plans	The Council will continue to tackle environmental problems through planning powers, linking in with other agencies where appropriate and through continuing environmental improvement schemes, good practise initiatives and education.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	Development plans usually have variety of environmental and socio-economic impacts.
3.1.3	Green procurement policy	The Council will continue to operate its green procurement policy.	Performance Management Department	Ongoing	✓✓✓	✓	Medium	Green procurement policies may encourage green technologies and their supply
3.1.4	Monitoring of air quality	The Council will continue to monitor air quality in the borough through the use of the two automatic monitoring stations and diffusion tubes.	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓	Medium	
		The Council will increase its monitoring of air quality by the installation and operation of two further particulate monitors.	Environment and Conservation Department – Public Protection Division	By end 2004	✓✓	✓	Low	
3.1.5	Staff objectives	Staff in the Environment and Conservation Department will be required to include an objective with a positive impact on air quality in their annual performance reviews.	Environment and Conservation Department – Public Protection Division	By end 2004	✓✓✓	✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
3.1.6	Staff induction	The Council will add information on air quality to the sustainability page of the Council induction pack	Human Resources Department	By end 2003	✓✓✓	✓	Medium	
3.1.7	Health Authority	We will work with the Islington Primary Care Trust to obtain data and statistics to inform and support the Council's air quality policies.	Environment and Conservation Department – Public Protection Division	By end 2004	✓✓✓	✓	Medium	
3.1.8	Trees	The Council will continue to implement its tree policy.	Environment and Conservation Department – Greenspace Division	Ongoing	✓✓✓	✓✓	High	Managing tree numbers may: • Improve visual amenity • Provide privacy in some circumstances • Provide food and nesting for birds • Increase property prices • Cause blocked drains • Cause mess and slip hazard from fruit • Cause structural damage to property • Cause excessive shading in some circumstances.
3.1.9	CARRA	The CARRA action projects will be undertaken in the EC1 New Deal area: • Energy Ambassadors • Schools and Climate Change • Roscoe Street tower blocks • Schools Travel • SMEs project.	Environment and Conservation Department – Planning Division in partnership with Peabody Trust, Islington Energy Centre, London Metropolitan University, LSE and the EC1 New Deal board.	By end 2004	✓✓✓	✓	Medium	Reduced CO_2 emissions may: • Help combat global warming • Improve energy efficiency • Reduce fuel poverty • Have negative impact on indoor air quality. Involvement in Action Projects may: • Engage community in environmental action • Educate children about climate change • Educate businesses about climate change.

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
Road Traffic Related Action - Zoning								
4.1.1	Low Emission Zone	The Council will continue to work with the ALG, the GLA and other London boroughs to support research into the feasibility of a London LEZ. The Council will contribute to the decision making process on whether or not to implement the LEZ.	Environment and Conservation Department - Public Protection Division.	Ongoing	✓✓	✓✓✓	High	The introduction of an LEZ may: • improve urban environment, • prejudice older vehicles; • promote new technologies; • have high cost of setting up and enforcing; • impact on local businesses.
4.1.2	Freight management	The Council will continue to operate 7.5 tonne lorry control areas.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Freight management may: • reduce noise levels; • improve urban environment.
		The Council will consider extending its lorry control areas to 3.5 tonne lorries.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓	✓	Low	
		The Council will continue to support the London night-time and weekend lorry controls on all heavy vehicles over 18 tonnes except those qualifying for special exceptions.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓✓	High	
4.1.3	Reduced speed residential traffic zones	The Council will consider the introduction of a programme of 20mph corridors along borough boundary roads.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓	✓	Low	Reduced speed residential traffic zones may: • reduce noise levels; • displace traffic to more suitable routes; • improve road safety.
		The Council will develop a pre-driver educational programme with other agencies including schools and local employers.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓	✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
4.1.4	Reducing congestion	The Council supports and will work with the GLA to maintain congestion charging zone for central London.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓✓	High	Congestion charging may: • Displace traffic elsewhere; • Introduce equity issues for nearest communities; • have an unsettling effect on local economy. Reduced traffic zones may: • Displace traffic elsewhere; • Introduce equity issues for nearest communities; • have an unsettling effect on local economy.
		Islington Council will continue to pursue the implementation of its reduces traffic zones.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	
Road Traffic Related Action – Public Transport								
4.2.1	Buses	The Council will continue to work in partnership with TfL London Buses, the bus operators and other relevant agencies in order to improve and increase bus travel	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	Increased numbers of buses may: • make more efficient use of road space; • reduce congestion; • increase personal choice; • require substantial financial support.
		The Council will continue to work with TfL Street Management to implement further bus measures through membership of the London Bus Initiative Partnership.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	
4.2.2	Railways and Underground	The Council will support extensions to the London Underground and national railways networks, including additional services, improved interchange facilities and other improvements to stations.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓	✓✓✓	Medium	Increased provision of railways and underground may: • reduce congestion on roads; • increase personal choice; • require substantial financial support; • require land from other uses.
Road Traffic Related Action – Charging and Enforcement								
4.3.1	Roadside emission testing	The Council has adopted the new powers contained in the Road Traffic (Vehicle Emissions)(Fixed Penalty)(England) Regulations 2002 to carry out random roadside vehicle emissions tests in the borough.	Environment and Conservation Department	2003	✓✓✓	✓✓✓	High	Roadside emission testing may: • Increase awareness in environmental issues; • Penalise low income groups who are more likely to be recipients of fixed penalty tickets.

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
		The Council will participate in a London wide emissions testing programme with other London Boroughs, the ALG, Police, and Vehicle Inspectorate.	Environment and Conservation Department	Ongoing	✓✓	✓✓✓	High	
4.3.2	Engine idling	The Council will making use of the powers contained in the Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 by undertaking a pilot study in known problem areas or in response to complaints.	Environment and Conservation Department	By end 2003	✓✓✓	✓	Medium	Use of powers to switch off idling engines may: • Increase awareness in environmental issues. • Reduce noise from vehicles.
4.3.3	Parking charges	Drivers of small engined, and zero and low emission vehicles pay a reduced charge for residents' parking permits in controlled parking zones.	Environment and Conservation Department – Environmental Services Division	Ongoing	✓✓✓	✓	Medium	Lower parking charges for green vehicles may: • Increase awareness of environmental issues • Benefit lower income groups who may own smaller cars.
		We will review the discount on residents' parking permits for owners of zero and low emission vehicles.	Environment and Conservation Department – Environmental Services Division	By end 2003	✓✓✓	✓	Medium	
Road Traffic Related Action - Infrastructure								
4.4.1	Refuelling infrastructure	We will investigate the provision of an on street electric charging point for electric vehicles	Environment and Conservation Department – Public Protection Division	By end 2004	✓✓✓	✓	Medium	Provision of an electric vehicle charging point may increase personal choice. Provision compressed natural gas and LPG may increase personal choice.
		The Council will contact all petrol filling stations in the borough to encourage the provision of compressed natural gas and LPG.	Environment and Conservation Department – Public Protection Division	By end 2003	✓✓✓	✓	Medium	
		The Council will install an LPG refuelling station for use with Council vehicles to be at Lough Road.	Environment and Conservation Department – Environmental Services Division	By end 2003	✓✓✓	✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
4.4.2	Traffic calming	The Council will promote a programme of traffic management and calming schemes on local roads to reduce traffic in residential streets.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Traffic calming may: • Increase some emissions • Increase noise • Displace traffic to more suitable routes.
4.4.3	Improved cycling provision	Islington will continue to participate in cross-borough initiatives in the London Cycle Network (LCN) such as the business cycle which seeks to encourage cycling to work	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓✓	High	Increased cycling may: • Improve local environment, • Reduce noise • Encourage health and fitness • Need cost of facilities.
		The Council will implement the local cycling measures programme contained in its cycling strategy.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	
4.4.4	Improved walking provision	The Council will seek to increase the proportion of all journeys made on foot through its walking strategy.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	Increased walking may: • Improve local environment, • Reduce noise • Encourage health and fitness • Needs investment in facilities.
4.4.5	Road signage	The Council will continue to work with Transport for London to undertake a borough wide review of traffic signage, to ensure that signs are clear and visible in order to minimise circling of traffic.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	Better and increased road signage may: • Require land from other uses, • Result in some loss of visual amenity.
Road Traffic Related Action - Schemes								
4.5.1	Traffic reduction	The Council will continue to seek to implement its traffic reduction strategy.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓	✓✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
4.5.2	Traffic speed management	The Council will continue to seek to implement its speed management plan.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓	✓✓	Medium	Traffic speed management may: • Improve road safety, • Reduce noise.
4.5.3	Green Travel Plan for employees	The Council intends to lead the borough in travel plans and has employed a travel plan officer to formulate a green travel plan for the Council.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓✓	High	Travel plans for employees may: • Reduce need for parking • Reduce congestion • Foster improved relations between employers, employees and local residents.
		The Council will encourage large employers in the borough to prepare and implement Green Travel Plans. In appropriate cases it will also seek a commitment to such plans during negotiations on major development	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	
4.5.4	Green Travel Plan for Schools	The Council will promote walking to school in partnership with the borough's schools.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Increased levels of walking to school may: • Reduce peak time traffic congestion • Encourage healthier children • Remove discrimination between communities • Improves road safety
4.5.5	Reducing the emissions from the Council's own fleet	The Council will put in place a programme for the acquisition and replacement of its vehicles, which maximises the use of green fuels.	Environment and Conservation Department – Environmental Services Division	By end 2003	✓✓	✓✓	Medium	Green the fleet policy also includes measures to: • Reduce vehicle noise • Encourage others to adopt similar practices.
		The Council has investigated the grants available from the Energy Savings Trust for assistance with its Greening the Fleet policy.	Environment and Conservation Department – Environmental Services Division	2002	✓✓✓	✓✓	High	
		The Council will trial the use of electrically powered vehicles for Environment and Conservation Department staff.	Environment and Conservation Department – Environmental Services Division	2003	✓✓✓	✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
		The Council will compile a register of fleet vehicles that includes emissions information and measures to improve emissions.	Environment and Conservation Department – Environmental Services Division	By end 2004	✓✓✓	✓	Medium	
		The Council will consider adopting the Mayor of London's emissions criteria for waste and recycling vehicles.	Environment and Conservation Department – Environmental Services Division	By end 2004	✓✓✓	✓	Medium	
		The Council will consider the use of ultra-low sulphur diesel and water-diesel emulsion instead of conventional diesel for all existing diesel vehicles.	Environment and Conservation Department – Environmental Services Division	By end 2003	✓✓✓	✓	Medium	
4.5.6	Raise public awareness through website	The air quality content of the Council's web site will be reviewed and improved on a regular basis.	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓	Medium	Web site content may • raise awareness of environmental issues • discriminate against low income groups who may not have access to internet
4.5.7	Raise public awareness through campaigns	The Council will continue to support and participate in European Car Free Cities Day and Don't Choke London.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Campaigns may raise awareness of wider environmental issues.
4.5.8	City Car Club	The Council has worked in partnership with Smartmoves to introduce the City Car Club facility to the borough and to launch the first car station.	Environment and Conservation Department – Planning and Transportation Division	By end 2003	✓✓✓	✓	Medium	The City Car Club may: • Reduce the need for car ownership • Reduce the need for parking space • Foster better relations between employers, employees and local residents • Encourage more social interaction
4.5.9	Council car allowances	We will review car allowances in order to identify and implement reforms that will encourage the cleanest and most fuel efficient vehicles.	Human Resources Department	Ongoing	✓✓✓	✓	Medium	Targeted car allowances may encourage employees to consider the environmental impact of their vehicles.
4.5.10	Incentives for staff who car share	We will undertake a review of options for introducing incentives for staff who car-share their journey to work.	Human Resources Department	Ongoing	✓✓✓	✓	Medium	Car sharing may: • Reduce the need for parking space • Make more efficient use of road space

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
4.5.11	Season ticket loans	The Council has reviewed the interest rates charged on Council loans for public transport season tickets. The Council now offers its staff interest free loans for this purpose.	Human Resources Department	Ongoing	✓✓✓	✓	Medium	Season ticket loans at favourable interest rates may: • Encourage use of public transport • Reduce unnecessary car journeys
4.5.12	Cycling allowance	We will review the allowance paid to staff who choose to use their bicycles to travel around the borough on official business, and consider extending the allowance to all staff.	Human Resources Department	Ongoing	✓✓✓	✓	Medium	Cycling allowances may: • Reduce car journeys to and from work • Encourage healthy and fit employees • Reduce sickness absence from work • Require cost of cycle safety training
4.5.13	Car loans	Staff making use of Council loans to purchase their car for work purposes will do so on the understanding that they can be called to the Council's vehicle emissions testing facility to ensure compliance with emissions standards	Human Resources Department	Ongoing	✓✓	✓	Low	
4.5.14	Staff pool bikes	The Council will continue to supply a pool of bicycles for staff to use.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Providing staff pool bikes may: • Reduce car journeys during work • Encourage healthy and fit employees • Reduce sickness absence from work • Require cost of cycle safety training
Road Traffic Related Action – Traffic Management								
4.6.1	Parking control	The Council will seek to increase the use of Controlled Parking Zones in the borough.	Environment and Conservation Department – Planning and Transportation Division	Ongoing	✓✓✓	✓	Medium	Controlled parking zones may: • Improve local amenity • Improve local residential access • Help less mobile people. • Help local business and customers.
Industrial Emissions								
5.1.1	Schedule B processes	We will encourage large commercial premises using oil for heating purposes to switch to gas.	Environment and Conservation Department – Public Protection Division	By end 2003	✓✓✓	✓	Medium	Changes to working practices may impact on staff and company economics.

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
		We will continue to apply the Environmental Protection Act regime and the new Integrated Pollution Prevention Control regime in accordance with the timetable for implementation.	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓	Medium	
		We will write to all authorised processes in the borough to encourage them to minimise emissions from their operations.	Environment and Conservation Department – Public Protection Division	By end 2003	✓✓✓	✓	Medium	
5.1.2	Construction sites	The Council will publish and distribute a Code of Construction Practice that will contain advice to developers on how dust and particle emissions can be kept to a minimum.	Environment and Conservation Department – Public Protection Division	By end 2003	✓✓✓	✓	Medium	
5.1.3	Commercial gas use (see 6.1.2 Energy Efficiency)							
Domestic Emissions								
6.1.1	Smoke control zones	The Council will take enforcement action against persons refusing to comply with the requirements of Islington's smoke control areas	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓✓	High	Enforcing the smoke control zone may: • Maintain the visual amenity • Increase costs on some home owners
6.1.2	Energy efficiency schemes	The Council will continue to operate its policy to increase energy efficiency in Council buildings.	Housing Services	Ongoing	✓✓✓	✓	Medium	Improved energy efficiency may: • Reduce CO_2 emissions • Reduce fuel poverty • Have negative impact on indoor air quality.
		The Council will continue to promote energy efficiency in development projects through planning guidance and leaflets.	Housing Services	Ongoing	✓✓✓	✓	Medium	

		Action	Who	When	Cost	Air Quality Improvement	Overall Priority	Wider Social, Environmental and Economic Effects
6.1.3	Bonfire information	Information will be made available on the air quality pages of the Council's Website of the detrimental affect of bonfires on air pollution levels.	Environment and Conservation Department – Public Protection Division	By end 2003	✓✓✓	✓	Medium	Fewer bonfires may: • Reduce incidence of neighbour nuisance • Impose greater costs of disposal of garden waste.
6.1.4	Private Sector Housing	The Council will continue to provide grants for energy efficiency improvement works in private sector housing	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓	Medium	Improved energy efficiency may: • Reduce CO_2 emissions • Reduce fuel poverty • Have negative impact on indoor air quality.
		The Council will continue to require the applicant of a renovation or House in Multiple Occupation grant to carry out energy saving measures as a condition of the grant	Environment and Conservation Department – Public Protection Division	Ongoing	✓✓✓	✓	Medium	

8 Appendix 1

8.1 Sources and Effects of Air Pollution

8.1.1 Airborne Particulates

Airborne particulates are a mixture of organic and inorganic substances present in the atmosphere as both solids and liquids. Coarse particles are regarded as those with a diameter of greater than 2.5μm and fine particles less than 2.5μm. Coarse particles usually come from the erosion of rocks and soil, and dust from road vehicles and industry. Fine particles contain the secondarily formed aerosols, combustion products and re-condensed organic and metallic vapours. A further distinction can be made to classify particulates as either primary or secondary, according to their origin. Primary particles are emitted directly into the atmosphere, whereas secondary particulates are those formed by reactions involving other pollutants.

Particulate matter is emitted from a wide variety of man-made sources, with road transport, industrial non-combustion, industrial combustion, commercial and residential combustion, and public power generation being the most significant. Natural sources are the erosion of rocks and soil as well as dust storms and volcanoes.

Airborne particulate pollution is associated with a range of effects on health, including effects on the cardiovascular and respiratory systems, asthma and mortality. The evidence suggests that the health effects are greater with the smaller fine particles than with the larger coarse particles.

8.1.2 Nitrogen Dioxide

Nitric oxide (NO) is an odourless, colourless gas which is produced during high temperature combustion of fuels in, for example, cars and other road vehicles, heaters and cookers. Once it is mixed with the air it combines with oxygen to form nitrogen dioxide (NO_2). Most nitrogen dioxide in the atmosphere is formed from the oxidation of nitric oxide in this way, although some is released directly from source. Nitrogen dioxide is a reddish brown, non-flammable gas with a detectable smell.

At relatively high concentrations nitrogen dioxide causes inflammation of the airways. There is evidence to show that long term exposure to nitrogen dioxide may affect lung function, and that exposure to nitrogen dioxide enhances the response to allergens in sensitised individuals.

8.1.3 Sulphur Dioxide

Sulphur dioxide (SO_2) is a colourless, non-flammable gas with a penetrating odour that irritates the eyes and air passages. The most common sources of sulphur dioxide include fossil fuel combustion, smelting, manufacture of sulphuric acid, conversion of wood pulp to paper, incineration of refuse and production of sulphur. Coal burning is the single largest man-made source of sulphur dioxide with volcanoes as the most common natural source.

Sulphur dioxide causes constriction of the airways by stimulating nerves in the lining of the nose, throat and airways of the lung. Even moderate concentrations may

result in a fall in lung function for asthmatics. Tightness in the chest and coughing occur at high levels, and lung function in asthmatics may be impaired to the extent that medical help is required. Sulphur dioxide pollution is considered more harmful when particulate and other pollution concentrations are high.

8.1.4 Benzene

Benzene is a colourless, volatile, organic liquid. Benzene readily evaporates and small quantities are detectable in the atmosphere. There are no well defined natural sources of benzene and all the benzene detected in the general environment is likely to have resulted from human activities. Benzene is present in petrol and can escape into the air, for example, at filling stations. Benzene is also emitted to the atmosphere from vehicle exhausts. Here the benzene is produced by a chemical reaction in the process of combustion of the petrol in the engine. Benzene may also be present in varying concentrations in cigarette smoke, some foods and in drinking water.

The health effect of long term exposure to benzene that is of most concern is leukaemia.

8.1.5 1,3-Butadiene

1,3-Butadiene is, at normal temperatures and pressures, a gas. The 1,3-butadiene found in the general environment derives solely from human activity, it being used in the manufacture of rubber for tyres. Some commercial liquid petroleum gases also contain up to 8 percent by volume. However, apart from accidental releases from such industrial activities, the 1,3-butadiene in the ambient air comes from the combustion of fossil fuels, particularly petrol and diesel in vehicle engines. 1,3-butadiene is also present in cigarette smoke.

Short term exposures to very high concentrations of 1,3-butadiene can cause irritation to eyes, nose, throat and skin. The effect of long term exposure that is of most concern is the induction of cancers.

8.1.6 Carbon Monoxide

Carbon monoxide is a gas produced in the process of combustion, be it in a vehicle engine, domestic heating boiler, in a cigarette or a bonfire. Indoors, the main sources are domestic fuel burning heaters and gas cooking appliances. Outdoors, the main source of carbon monoxide is vehicle exhausts.

Unlike many toxic gases, carbon monoxide is both colourless and odourless and life threatening concentrations can be breathed without any warning to the victim. The first sign of severe poisoning are loss of consciousness further inhalation of high concentrations leads to death. In practice, people are exposed to very much lower concentrations of carbon monoxide in the general environment than those required to bring about loss of consciousness and death. In long term exposure to lower concentrations, the effect of carbon monoxide in impairing the transportation of oxygen in blood can exacerbate other medical conditions, such as disease of the coronary arteries, and increase the risk of heart attack.

8.1.7 Lead

The dominant source of airborne lead in the UK is the combustion of petrol in vehicle engines. The increased use of unleaded petrol has resulted in a significant decrease in emissions of lead into the air.

Low level exposure to lead in the environment can have an effect on the central nervous system and on the developing brain of children leading to a lower IQ.

8.1.8 Ozone

Ozone is not emitted directly from any man-made source in any significant quantities, but arises from chemical reactions driven by sunlight in the atmosphere. In the lower layers of the atmosphere, ozone is usually generated from a complex series of chemical reactions involving oxides of nitrogen and hydrocarbons derived from vehicle exhausts. Once formed, ozone is scavenged by nitric oxide, usually present in urban areas, as a result of traffic fumes, but less so in the countryside. Consequentially, ozone usually occurs in higher concentrations during the summer than winter, and in rural rather than urban areas.

Ozone can impair lung function and cause irritation to the respiratory tract. Asthmatics are known to adopt these symptoms more easily.

9 Appendix 2

9.1 Legislative Framework

9.1.1 The National Air Quality Strategy

The Environment Act 1995 introduced legislation for local air quality management. New duties were placed on local authorities and the government was required to produce a national air quality strategy to set health based air quality objectives.

The first National Air Quality Strategy was published in March 1997. The strategy adopts an integrated approach to air quality and includes European and national measures, as well as local air quality management. The strategy aims to balance the costs of meeting the objectives across the different stakeholders identified.

The National Air Quality Strategy was updated republished as The Air Quality Strategy for England, Scotland, Wales and Northern Ireland in January 2000. The strategy contained objectives for eight key pollutants. All apart from ozone are the direct responsibility of local authorities. The objectives for the seven key pollutants made legally binding for local authorities in the Air Quality Regulations 2000 are reproduced in Table 5 below.

Table 5. Current objectives for pollutants.

Pollutant	Objective	Concentration measured as	Date to be achieved by
Benzene	16.25 µg/m^3 (5 ppb)	running annual mean	31 December 2003
1,3-butadiene	2.25 µg/m^3 (1 ppb)	running annual mean	31 December 2003
Carbon monoxide	11.6 mg/m^3 (10 ppm)	maximum daily running 8-hour mean	31 December 2003
Lead	0.5 µg/m^3	annual mean	31 December 2004
	0.25 µg/m^3	annual mean	31 December 2008
Nitrogen dioxide	105 ppb (200 µg/m³) not to be exceeded more than 18 times a year	1 hour mean	31 December 2005
	21 ppb (40 µg/m³)	annual mean	31 December 2005
Fine particles (PM_{10})	50 µg/m³ not to be exceeded more than 35 times a year	24 hour mean	31 December 2004
	40 µg/m³	annual mean	31 December 2004

Pollutant	Objective	Concentration measured as	Date to be achieved by
Sulphur dioxide	350 µg/m³ (132 ppb) not to be exceeded more than 24 times a year	1 hour mean	31 December 2004
	125 µg/m³ (47 ppb) not to be exceeded more than 3 times a year	24 hour mean	31 December 2004
	266 µg/m³ (100 ppb) not to be exceeded more than 35 times a year	15 minute mean	31 December 2005

In 2003 the government published an addendum to the National air Quality Strategy which incorporates new air quality objectives into the Strategy. A tighter objective for particles and benzene supplement those objectives in the 2000 Strategy; a new objective for carbon monoxide replaces the objective in the 2000 Strategy, and an objective for polycyclic aromatic hydrocarbons (PAH) is included for the first time. The new objectives for benzene and carbon monoxide have already been put into regulations for the purposes of Local Air Quality Management.

The new air quality objectives included in the National Air Quality Strategy are shown in Table 6 below. Only the new objectives for England and Wales are given here, Scotland and Northern Ireland have other new objectives.

Table 6. New objectives for pollutants

Pollutant	Objective	Concentration measured as	Date to be achieved by
Benzene	5 µg/m^3 (1 ppb)	annual mean	31 December 2010
Carbon monoxide	10 mg/m^3 (8.6 ppm)	maximum daily running 8-hour mean	31 December 2003
Polycyclic aromatic hydrocarbons	0.25 ng/m^3 for benzo(a)pyrene	annual mean	31 December 2010
England (apart from London) and Wales			
Fine particles (PM_{10})	50 µg/m³ not to be exceeded more than 7 times a year	24 hour mean	31 December 2010
	20 µg/m³	annual mean	31 December 2010
London			
Fine particles (PM_{10})	50 µg/m³ not to be exceeded more than 10 times a year	24 hour mean	31 December 2010
	23 µg/m³	annual mean	31 December 2010

The National Air Quality Strategy sets out the steps that local authorities must take in order to improve air quality. The first step is to carry out a comprehensive three stage review and assessment of air quality in the borough to identify any objectives that will not be met, viz:

- the first stage involves identifying sources of the pollutants, which may prevent the objectives from being met within the borough.
- for any pollutants identified as possibly being a problem, a more detailed second stage is required.
- this then identifies any requirements for advanced monitoring and computer modelling in a third stage review.

Any part of the authorities area in which the objectives will not be met should by order be designated an Air Quality Management Area and an action plan drawn up identifying measures to be undertaken by the local authority and others to work towards achieving the objectives.

10 Appendix 3

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11 Appendix 4

11.1 Abbreviations

ALG Association of London Government

AQMA Air Quality Management Area,

CHP combined heat and power

CNG compressed natural gas

CO carbon monoxide

CO_2 carbon dioxide

CPZ Controlled Parking Zone

DEFRA Department for the Environment, Food and Rural Affairs

DETR (former) Department for the Environment, Transport and the Regions, now replaced by DTLR and DEFRA

DTLR Department for Transport, Local Government and Regions

EA Environment Agency

EPAQS Expert Panel on Air Quality Standards

g grammes

GLA Greater London Authority

HGV heavy goods vehicle

IPC Integrated Pollution Control

IPPC Integrated Pollution Prevention and Control

ILIP Interim Local Implementation Plan

LAPC Local (Authority) Air Pollution Control

LAQM Local Air Quality Management

LAQN London Air Quality Network

LEZ low emission zone

LPG liquefied petroleum gas

$\mu g/m^3$ micrograms per cubic metre of air

NAQS The National Air Quality Strategy or proper title of The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, January 2000

NO nitrogen monoxide, also termed nitric oxide

NO_2 nitrogen dioxide

NO_x oxides of nitrogen

NSCA National Society for Clean Air and Environmental Protection

O_3 ozone

PM_{10} particulate matter with an (equivalent aerodynamic) diameter of ten microns (10µm) or less

$PM_{2.5}$ particulate matter with an (equivalent aerodynamic) diameter of 2.5 microns (2.5µm) or less

SO_2 sulphur dioxide

TfL Transport for London

TLRN Transport for London Road Network

UDP Unitary Development Plan

VOC volatile organic compounds

11.2 Glossary

Air Quality Objective for several, priority pollutants the government has set target levels (expressed as a pollutant concentration in air) and dates for restricting their levels in air. These objectives are set based upon the advice of the Expert Panel on Air Quality Standards (EPAQS), as described in the *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2000* and set into legislation through the *Air Quality (England) Regulations 2000*. Air Quality Objectives are set at Objective Levels at which no or minimal effects on human health are likely to occur, taking account of the best available evidence of the effects of air pollution on human health. These Objective Levels are set purely on the basis of medical and scientific evidence of how each pollutant affects human health. In setting objectives (Objective Levels together with the Objective Date by which they must be achieved, and the number of days they are allowed to be exceeded), the government states that it has taken account of economic efficiency, practicability, technical feasibility and timescale. Objectives apply at locations where members of the public are expected to be exposed for the period of time covered by the objective.

Air Quality Objective Level this is a level, as set out in the *Air Quality (England) Regulations 2000*, at which the concentration of a pollutant in air is restricted Ð it is set purely on the basis of medical and scientific evidence of how the pollutant affects human health.

Air Quality Standards within the UK, these are derived from the UK Expert Panel on Air Quality Standards (EPAQS), and are pollutant-specific concentration levels and averaging time periods recommended to DETR for use as benchmarks in setting Air Quality Objectives.

Annual mean the average over a year of concentrations measured (or predicted) for a pollutant, usually relates to a calendar year.

AQMA Air Quality Management Area, an area which a local authority has designated for action, based upon predicted exceedences of Air Quality Objectives.

Concentration the amount of a (polluting) substance in a volume (of air), typically expressed as a mass of pollutant per unit volume of air (eg microgrammes per cubic metre, µg/m_3) or a volume of gaseous pollutant per unit volume of air (parts per million, ppm).

Euro I Europe-wide vehicle standard that required vehicles manufactured after 1992 to achieve set emissions limits. For petrol cars this was achieved by the fitting of three way catalysts.

Euro II, III and IV Europe-wide vehicle standards that are progressively stricter, for years 1996, 2000 and 2006 respectively.

Exceedence when an Air Quality Objective is not achieved.

Fine particles, particulate matter, PM_{10} particles in air with an (equivalent aerodynamic) diameter of ten microns (10µm) or less.

LAQN - London Air Quality Network a network of air pollution measurement sites owned by the London boroughs and co-ordinated on their behalf by the South East Institute of Public Health.

London boroughs used when referring to the 32 London boroughs and the Corporation of London.

Mean the average of a set of data.

mg/m^3 milligrams per cubic metre of air. The international system of expressing concentration of air pollutants in the atmosphere. This unit is one thousand times larger than $\mu g/m^3$ (microgram per cubic metre) listed below.

$\mu g/m^3$ micrograms per cubic metre of air. The international system of expressing concentration of air pollutants in the atmosphere. This unit is one thousand times smaller than mg/m_3 (milligrams per cubic metre) listed above.

NAQS - The National Air Quality Strategy published by the (former) Department of the Environment, Transport and the Regions as The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, January 2000. Originally published in 1997, then revised following a review and consultation process. This sets out the government's medium- term air quality policy for the UK and describes current and projected air quality.

NO - Nitrogen monoxide formed from nitrogen in the atmosphere during high temperature combustion, and the main constituent of NOx, also commonly known as nitric oxide.

NO_2 - Nitrogen dioxide small amounts are formed from nitrogen in the atmosphere during high temperature combustion but the majority is formed in the atmosphere through the conversion of nitric oxide (NO) in the presence of ozone (O_3).

NO_x - Oxides of nitrogen includes both NO and NO_2 - see above.

$PM_{2.5}$ particulate matter with a mean effective aerodynamic diameter of 2.5 microns or less.

PM_{10} particulate matter with an (equivalent aerodynamic) aerodynamic diameter of ten microns (10µm) or less, small enough to penetrate the lungs.

ppb parts per billion. The British system of expressing concentration of air pollutants in the atmosphere, a volume ratio, only suitable for gaseous pollutants.

ppm parts per million. The British system of expressing concentration of air pollutants in the atmosphere, a volume ratio, only suitable for gaseous pollutants.

Review and Assessment, an assessment of air quality by a local authority in its area, required to be carried out by local authorities as a statutory duty under the Environment Act 1995.

Retro-fitting fitting catalysts, regenerating particulate traps or other equipment to cars or other vehicles which are already in use in order to reduce their emissions of pollutants.

Running or rolling average an average set for a specific time period (eg eight hours) where the average is continuously calculated each hour over the year. For the running mean carbon monoxide value, expressed as the maximum eight-hour average, this is calculated over all the consecutive eight-hour periods in a year, ie for (365 x 24) - 8 = 8,752 sets of eight- hour periods.

12 Appendix 5

12.1 Consultation

The Environment Act 1995 sets out the requirements for consultation in respect of Air Quality Action Plans. The local authority is required to consult with a variety of organisations and individuals including the Secretary of State, the Mayor of London, neighbouring Councils and any other bodies that the authority considers appropriate. The Air Quality Action Plan was sent out as a consultation draft in November 2002, inviting comments by March 2003.

Copies of the consultation draft Air Quality Action Plan were sent to:

The Greater London Authority

The Department for the Environment, Food and Rural Affairs

The Association of London Government

The Environment Agency

The Highways Agency

The London Borough of Camden

The London Borough of Hackney

The London Borough of Haringey

The Corporation of London

The Chartered Institute of Environmental Health

Transport for London

National Society for Clean Air and Environmental Protection

In addition, copies of the consultation draft action plan were sent to all Departments within Islington Council and the elected members of the Council, together with selected local businesses, local interest groups and individuals. The consultation draft action plan was also made available to the public at Islington libraries, as a downloadable file on the Council's website and through the distribution of leaflets summarising the main points of the plan.

In all the Pollution Team received responses from the GLA, Defra, the Highways Agency, ARRIVA London North Ltd, the Environment Agency and 8 Islington residents. The comments of all respondents have been noted and where possible incorporated into the final version of the Air Quality Action Plan. Our thanks goes to all those who gave us their comments.

Further copies of this action plan can be obtained by writing to:

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London Borough of Islington

159 Upper Street

London N1 1RE

or by contacting the Pollution Team on 020 7527 3840/3228.