Appendix to Paper No. 04-1

LONDON BOROUGH OF WANDSWORTH

AIR QUALITY ACTION PLAN

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CONTENTS

INTRODUCTION

Mass emissions of air pollutants from industrial processes, energy production and domestic sources have declined significantly in the last 30 years and are still falling, but emissions from motor vehicles have steadily risen during this same period. As a result, levels of certain pollutants can frequently exceed the National and European standards recommended for the protection of public health. Future improvements in ambient air quality will be dependent, to a large extent, on the reduction of road traffic emissions within the capital, advances in engine and fuel technology, and modal travel shifts.

1. Introduction to Local Air Quality Management

Part IV of the **Environment Act 1995** established a system for **local air quality management (LAQM)**, which is an integral part of achieving the objectives in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Under section 82 of the Act, every local authority was required to carry out a **review and assessment of air quality** to determine whether the national air quality objectives would be met by the operative dates. In certain circumstances, following this review, local authorities are required to declare **air quality management areas** and draft **action plans**.

2. Government Policy

The **Air Quality Strategy for England, Scotland, Wales and Northern Ireland** was published in January 2000 and describes the Government's strategy for improving air quality in the UK. One of the key aspects of the strategy was the setting of air quality objectives for a range of 7 priority pollutants, namely:

- Benzene
- 1,3-Butadiene
- Carbon monoxide
- Lead
- Nitrogen dioxide (NO_2)
- Particles (PM_{10})
- Sulphur dioxide (SO_2)

The objective for each of these pollutants comprised 3 elements – a maximum concentration, the measurement criteria and the date for achievement. These air quality objectives are set out in the **Air Quality (England) Regulations 2000,** which provide the statutory basis for the system of LAQM. The air quality standards and objectives laid down in these regulations are presented in Table 1.

The government has more recently announced tighter objectives for PM_{10} and introduced for the first time an objective for polycyclic aromatic hydrocarbon (PAHs). The new standards and objectives are given in Table 2. These new objectives, however, are provisional and have not yet been included in the regulations for the purposes of LAQM.. Ozone is also included in the strategy but requires

transboundary measures and is not amenable to a local control regime so is excluded from local authority action.

Table 1 Air Quality Objectives

POLLUTANT	AIR QUALITY OBJECTIVE	MEASURED AS	DATE TO BE ACHIEVED BY
Benzene	**16.25 ug/m^3** **5 ug/m^3**	Running annual mean Annual mean	31 Dec 2003 31 Dec 2010
1,3-Butadiene	**2.25 ug/m^3**	Running annual mean	31 Dec 2003
Carbon monoxide	**10 mg/m^3**	Running annual mean	31 Dec 2003
Lead	**0.5ug/m^3** **0.2ug/m^3**	Annual mean Annual mean	31 Dec 2004 31 Dec 2008
Nitrogen dioxide	**200 ug/m^3 (to be exceeded no more than 18 times a year)** **40 ug/m^3**	1 hour mean Annual mean	31 Dec 2005 31 Dec 2005
Small particles (PM_{10})	**50 ug/m^3 (to be exceeded no more than 35 times a year)** **40 ug/m^3**	24 hour mean Annual mean	31 Dec 2004 31 Dec 2004
Sulphur dioxide	**266 ug/m^3 (to be exceeded no more than 35 times a year)** **350 ug/m^3 (to be exceeded no more than 24 times a year)** **125 ug/m^3 (to be exceeded no more than 3 times a year)**	15 minute mean 1 hour mean 24 hour mean	31 Dec 2005 31 Dec 2004 31 Dec 2004

Source: National Air Quality Strategy, DETR 2000

Table 2 New Air Quality Objectives

POLLUTANT	AIR QUALITY OBJECTIVE	MEASURED AS	DATE TO BE ACHIEVED BY
Small particles (PM_{10}) (London only)	**50 ug/m^3 (to be exceeded no more than 10 times a year)** **23 ug/m^3**	24 hour mean Annual mean	31 Dec 2010 31 Dec 2010
Small particles (PM_{10}) (England)	**50 ug/m^3 (to be exceeded no more than 7 times a year)** **20 ug/m^3**	24 hour mean Annual mean	31 Dec 2010 31 Dec 2010
Polycyclic aromatic hydrocarbons	**0.25 ng/m^3**	Annual average	31 Dec 2010

Source: Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, DEFRA 2003

The air quality standards set out in the strategy are based on medical evidence of the effects of particular pollutants on health. The main sources together with a summary of the health effects of these pollutants are shown in Table 3.

Table 3 – Health Effects of Pollutants

POLLUTANT	SOURCE	HEALTH IMPACT
Benzene	Combustion of petrol vehicles	Possible chronic health effects include cancer, central nervous system disorders, liver and damage, reproductive disorders and birth defects
1.3-butadiene	Combustion of petrol and diesel vehicles	Possible health effects as far benzene
Carbon monoxide (CO)	In urban areas, produced almost entirely road traffic emissions	Prevents the normal transport of oxygen in the blood, People with existing heart or brain diseases likely to be at particular risk
Lead	Historically petrol vehicles, industry and waste incineration	Harmful to young. Linked to brain damage in children, and impairment of memory and attention span
Nitrogen dioxide (NO_2)	Fuel combustion – principally road transport also power generation	Lung irritant, may lower the resistance to respiratory infections
Particulates (PM_{10})	In cities, main source is road traffic emissions, particularly diesel vehicles	Can cause inflammation to the lungs and worsen symptoms for people suffering with heart and lung diseases. PM_{10}'s may also carry carcinogens deep into the lungs
Sulphur dioxide (SO_2)	Mainly industry, also road transport	Causes constriction of the airways, exacerbating existing conditions like asthma and chronic lung disease

Further information about the national government's air quality strategy can be obtained at:
http://www.defra.gov.uk/environment/airquality/strategy/index.htm

3. Local Air Quality Management

The system of local air quality management, established by the Environment Act 1995, consists of 3 parts:

Air quality review and assessment.
Declaration of air quality management areas.
Implementation of air quality action plans.

4. Air Quality Review and Assessment in Wandsworth

The Environment Act 1995 places a duty on every local authority to review and assess the key pollutants in their area against air quality standards and objectives laid down in the Air Quality Regulations 2000. The aims of the review and assessment are:

- to assess the current pollution levels in respect of the pollutants and standards laid down in the Air Quality Regulations 2000;
- to predict future levels of pollutants and determine whether the national air quality objectives will be met by the relevant dates laid down in the Regulations;
- to identify areas where the public are likely to be exposed for a significant period of time.

The process is a staged process with each subsequent stage involving more sophisticated analysis, including computer modelling, and focusing only on those pollutants identified from the previous stage as unlikely to achieve the objective. Modelling for the 3rd stage was carried out for Wandsworth during 1999/2000 by the Environmental Research Group at King's College, London. The outcome of the study was reported to the Environment and Public Services Committee and the Regeneration and Transport Committee in June 2000.

A copy of the committee report (Paper No. 00/376) can be obtained from the Committee section, Town Hall, Wandsworth High Street, SW18 2PU (020 8871 7032). A full copy of the review and assessment report can be obtained from Jill Phillips, Environmental Services Division, 78 Garratt Lane, London, SW18 4DJ (020 8871 6135) and a summary of this report can be seen at:
http://www.wandsworth.gov.uk/envsvs/envaqsummary.htm

The main findings of the report on that review and assessment showed that there would be areas of exceedences of Government objectives for nitrogen dioxide (NO_2 - annual average) and fine particles (PM_{10} - 24 hour average) alongside most of the main roads in a network across the Borough. There were also areas of exceedence predicted for the SO_2 objective but these exceedences resulted mainly from large regional sources such as the power generating industry. This prompted more detailed investigation and modelling by the Environment Agency together with changes to the permitted emissions from certain plants. The outcome was that the objective for SO_2 was likely to be achieved in Wandsworth.

5. Declaration of Air Quality Management Area

Where, as a result of an air quality review and assessment, it is predicted that there will be exceedences of national air quality objectives in places where the public may be exposed, the Environment Act 1995 requires that the local authority should declare air quality management areas (AQMA) covering those geographical areas. In Wandsworth, the Council determined that the whole borough should be an AQMA. The determination was based on the stage 3 modelling, which showed that there is likely to be a network of areas covering the whole borough in the years 2004/2005 in which NO2 and PM10 concentrations are likely to exceed air quality objectives. The Order making the declaration came into force on 2nd January 2001.

Having declared the whole borough an AQMA, the legislation placed an obligation on the Council to undertake two further stages in the local air quality management process as follows:

(a) to carry out a further review and assessment of air quality; and,
(b) to draft an **air quality action plan**.

6. Further Review and Assessment of Air Quality in Wandsworth

The further air quality review and assessment ("stage 4") allows the Council to:

- confirm its original assessment of air quality against the prescribed objectives, and thus to ensure that it was right to designate the AQMA in the first place;
- calculate more accurately how much of an improvement in air quality would be needed to deliver the air quality objectives within the AQMA;
- refine its knowledge of the sources of pollution so that air quality action plans can be properly targeted;
- take account of national policy developments which may come to light after the AQMA declaration;
- carry out or continue further monitoring in problem areas to check earlier findings.

The Council has undertaken a stage 4 review and assessment in conjunction with the Environmental Research Group of Kings College London. Stage 4 focused on assessing levels of NO_2 and PM_{10} in the years 2004 and 2005. The new modelling used improved data on traffic flows, the most recent vehicle emission factors, and more accurate dispersion modelling and mapping compared with the stage 3 review.

The outcome of the stage 4 review and assessment was reported to the Environment and Public Services and the Regeneration and Transport Overview and Scrutiny Committees and the Executive in June 2003

A copy of the committee report (Paper No. 03-423) can be obtained from the Committee section, Town Hall, Wandsworth High Street, SW18 2PU (020 8871 7032). A full copy of the review and assessment report can be obtained from Jill Phillips, Environmental Services Division, 78 Garratt Lane, London, SW18 4DJ (020 8871 6135) and a summary of this report can be seen at:
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The modelling predictions confirm the stage 3 findings that predicted concentrations for NO_2 and PM_{10} will exceed AQS objectives within the Council's AQMA in 2004/2005 along bands of variable width following the main roads across the whole borough. However, the modelling indicated that the likely area of exceedence of the PM_{10} (daily mean) objective is smaller than predicted by the stage 3 modelling and also smaller than the area where the NO_2 (annual mean) objective is predicted to exceed. The NO_2 (hourly mean) objective is likely to be met. The report concludes that the annual mean NO_2 objective is the more stringent of the objectives that needs to be met. Contour maps of Wandsworth showing the modelled areas of likely exceedence of NO_2 and PM_{10} are presented in Appendix C.

Pollution levels in Wandsworth are measured at two monitoring stations: Wandsworth 2, located in Wandsworth Town Hall which provides an urban background site, and Wandsworth 4, located on Wandsworth High Street, which provides a roadside site. The pollution levels measured at these monitoring stations were used for validation of the modelling together with other monitoring sites in the London Air Quality Monitoring Network. Summaries of the results for NO_2 and PM_{10} up to the most recently ratified data are presented in Tables 4 and 5.

Table 4: Summary of Nitrogen dioxide monitoring in Wandsworth, 1997-2002.

	1997	**1998**	**1999**	**2000**	**2001**	**2002**
Annual Mean ug/m3						
Wandsworth 2	53	49	51	50	52	27
Wandsworth 4	N/A	49	49	46	53	23
Number of hours > 200ug/m3						
Wandsworth 2	20	0	0	0	0	0
Wandsworth 4	N/A	4	0	0	5	0

Table 5: Summary of PM_{10} monitoring (Gravimetric equivalent) in Wandsworth.

	1998	**1999**	**2000**	**2001**	**2002**
Number of days > 50ug/m3					
Wandsworth 4	12	17	19	28	17
Annual Mean ug/m3					
Wandsworth 4	25	26	27	28	27

The concentration of a pollutant at any place is the result of local emissions added to a background component deriving from further afield, and dependant upon the weather conditions leading up to that point in time, which affects pollutant dispersal and atmospheric chemistry. An approximation of the proportion of emissions of NO_2 and PM_{10} from different sources in Greater London is given in Table 6:

Table 6: Percentage of emissions of NO_2 and PM_{10} in Greater London, 1999.

	% NO_2	% PM_{10}
Road Traffic	53	69
Other Transport	12	7
Industry	21	23
Domestic/Commercial Gas Use	14	<1

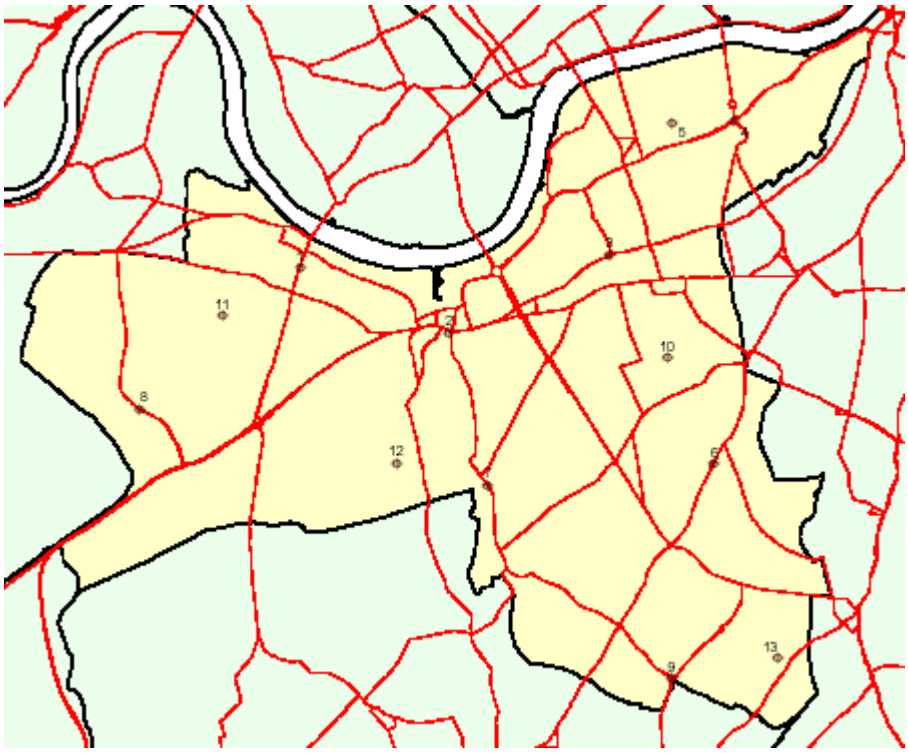
The stage 4 review and assessment allowed a more detailed consideration of the main sources of air pollutants in Wandsworth. The source apportionment work was carried out in order to gain an understanding of individual contributions from different categories of pollutant source in the absence of any additional measures beyond those already in place at a national level. It identified road traffic as the principal contributor arising in Wandsworth. Further it also permitted a more detailed understanding of the varying contributions of different vehicle types (cars, heavy goods vehicles (HGVs), buses/coaches and taxis) in different parts of the borough in both actual concentrations and also in relative terms. This information aids the decision making process by assisting the formulation and targeting of actions.

Having identified road vehicles as the dominant current and future contributors to NO_2 and PM_{10} emissions, source apportionment of the different contribution of different vehicle types was made at specific locations around the borough, including at roadside and background locations. The locations chosen represent a variety of area types where exposure to the pollutants may occur, and a number of road types. They are listed in Table 7 and shown on Figure 1. Locations 1 to 9 are at busy roads, and 10 to 13 are background locations.

Table 7: Location of sites used for source apportionment.

I.D	Location	Easting	Northing
1	Putney High Street, junction Montserrat Road, SW15	524045	175320
2	Wandsworth High Street, junction Garratt Lane, SW18	525636	174623
3	Lavender Hill, junction Falcon Road, SW11	527351	175452
4	Queens Town Road, junction Battersea Park Road, SW11	528684	176876
5	Tooting Bec Station, opposite Trinity Road junction, SW17	528021	176867
6	Balham High Road, junction Balham Station Road, SW12	528476	173209
7	Garratt Lane, junction Magdalen Road, SW17	526053	172996
8	Roehampton Lane, junction Roehampton High Street, SW15	522328	173802
9	Amen Corner, Tooting, SW17	528014	170922
10	outside 60 Wroughton Road, SW11	527973	174353
11	outside 1 Castello Avenue, SW15	523214	174805
12	outside 36 Elborough Street, SW18	525074	173225
13	outside 15 Pretoria Road, SW17	529153	171128

Figure 1: Locations chosen for detailed source apportionment.



The results of the source apportionment modelling at these locations are presented in tables 8 to 12 following.

Table 8: Predicted NOx concentration and proportions of Source contributions.

I.D.	NOx (ug/m3)	% Buses	% Cars	% HGVs	% Background
1	303.0	28.1	27.4	24.9	19.6
2	179.6	12.1	26.0	29.4	32.6
3	157.4	19.5	24.0	18.4	38.0
4	217.9	9.2	28.8	31.2	30.8
5	79.9	1.8	8.7	6.9	82.7
6	176.2	6.4	32.0	27.8	33.8
7	148.8	11.7	30.9	18.5	38.9
8	139.6	7.4	32.5	19.4	40.7
9	137.2	14.1	24.5	17.9	43.4
10	72.4	2.1	10.0	5.8	82.1
11	64.7	1.5	5.7	4.0	88.9
12	66.6	2.1	6.1	4.3	87.6
13	68.7	1.9	5.7	4.4	87.9

Table 9: Predicted NOx concentration (µg/m3) for the background sources.

I.D.	Background Roads	Domestic	Industrial Gas	Industrial Oil	Railways	LAAPC Part B	Other Background
1	30.44	5.42	2.38	1.17	0.58	0.06	19.0
2	29.45	5.03	2.85	0.93	0.66	0.05	19.0
3	29.58	5.47	2.82	1.14	1.38	0.05	19.0
4	37.67	5.12	2.82	0.74	1.36	0.04	19.0
5	36.58	5.12	2.82	0.74	1.36	0.04	19.0
6	29.98	6.26	2.73	0.41	0.69	0.05	19.0
7	28.63	5.40	3.13	0.45	0.69	0.05	19.0
8	29.13	4.42	2.46	0.38	0.42	0.07	19.0
9	31.29	5.37	2.61	0.33	0.44	0.05	19.0
10	30.60	5.32	2.40	0.64	0.95	0.05	19.0
11	29.51	4.35	2.76	0.63	0.49	0.06	19.0
12	30.13	4.94	2.53	0.43	0.66	0.05	19.0
13	31.91	5.80	2.31	0.29	0.62	0.05	19.0

Tables 10, 11 & 12 show that the background contribution greatly dominates even at the most polluted locations, which are also those most influenced by the contribution from road transport (i.e. locations 1, 2, 4 and 6). For NOx the background component is at least 49% at all locations and for PM_{10} considerably higher. Unlike NOx, the background PM_{10} component includes both secondary and coarse components, which are very significant. Table 12 shows the relative proportions of the sources making up the overall background component. 2005 gives a comparatively higher background PM_{10} associated with the expected reduction in emissions from road traffic.

Table 10: Predicted NO_x contributions (%) for the different background sources

I.D.	% Road Related	% Non-Road Related
1	51.7	48.3
2	50.8	49.2
3	49.8	50.2
4	56.4	43.6
5	55.7	44.3
6	50.7	49.3
7	49.9	50.1
8	52.1	47.9
9	53.0	47.0
10	51.9	48.1
11	52.0	48.0
12	52.2	47.8
13	53.2	46.8

Table 11: Predicted annual mean PM_{10} concentration (µg/m3) and proportion derived from different sources

I.D.	PM_{10} (ug/m3)	% Buses	% Cars	% HGVs	% Background
1	47.1	14.8	16.2	17.2	51.9
2	33.3	4.1	8.8	14.0	73.2
3	31.3	6.2	7.4	8.5	77.8
4	36.3	3.1	11.6	16.9	68.4
5	25.3	0.2	1.3	1.5	97.0
6	33.2	2.1	10.4	14.1	73.4
7	30.5	3.3	8.1	9.0	79.7
8	29.3	1.9	7.2	8.4	82.6
9	29.8	3.9	6.4	8.0	81.6
10	24.9	0.2	1.3	1.1	97.3
11	24.4	0.1	0.4	0.5	98.9
12	24.6	0.2	0.6	0.6	98.6
13	24.8	0.3	0.8	1.0	97.9

Table 12: Proportion (%) of PM_{10} background source category contributions

I.D	Background Roads	Other transport & commercial	Background Primary Rural	Secondary/ Coarse
1	8.2	1.3	4.8	85.7
2	7.8	1.4	4.8	86.1
3	7.7	1.4	4.8	86.1
4	9.3	1.7	4.7	84.3
5	8.3	1.7	4.8	85.2
6	8.4	0.9	4.8	85.9
7	7.2	1.9	4.8	86.1
8	7.8	0.7	4.8	86.6
9	8.3	0.7	4.8	86.2
10	7.9	0.9	4.8	86.4
11	7.6	0.9	4.8	86.6
12	7.3	1.7	4.8	86.2
13	8.3	0.7	4.8	86.2

The modelling results in the tables use a 1999 base since accurate traffic information is available including actual counts rather than estimates. Predictions for 2004/5 are based on numerous assumptions, including assumed changes in vehicle stock, vehicle flows, and speeds. Following the publication of the stage 4 review, ERG carried out further validation work on their modelling approach and methodology to compare the 1999 output with 2004/2005. The results were as follows:

1. The source apportion results for 1999 and 2004/5 are reasonably consistent for both NOx and PM_{10}, with the future case indicating similar reductions in background contribution at each location and with reductions in contributions from buses, cars and HGVs.

NO_X

2. The relative comparison of NOx for different years indicates a very slight increase in background contribution compared with 1999 i.e. 1-3% for 2005.
3. There are also slight increases in contributions from both buses (0.4-2.1%) and HGVs (1.4-8.1%) in 2005.
4. There is a decrease in contribution from cars (4.2-9.3%) in 2005.
5. The overall relative contributions between cars and HGVs remains the same – with cars a greater source than HGVs for all locations for both years in this instance.
6. A comparison of the relative road and background contributions indicates very small changes between the different years (0.7-3.4%).

PM_{10}

7. The relative comparison of PM_{10} for different years indicates a slight increase in background contribution (1.1-8.9%) for 2004.
8. There are also slight decreases in contributions from both buses (0.4-2.3%) and HGVs (0.3-4.7%) and cars (0.4-3.4%).
9. A comparison of car contributions as a total of the road transport indicates very small change between the different years (0.7-3.4%). The bus contribution however is proportionally lower and conversely the HGV contribution is proportionally greater.

This work indicates that the differences between the years 1999 and 2004/5 are not hugely significant and so actions based on the 1999-base modelled results are applicable to 2004/2005. In addition, the differences between the different individual source contributions are less than the limits of uncertainty for the modelling.

Another source of particles that is considered in Wandsworth's Action Plan, mainly with respect to local impacts but also forming part of background concentrations, is the construction industry. There has been a very large amount of redevelopment in the borough during the last 5 years or so. Some sites are very large, especially along the River Thames embankment. Some are finished or substantially completed, whereas others are ongoing or yet to start, for example the Battersea Power Station site. The Building Research Establishment (BRE) has been researching the impact of construction activities on air quality. The project included quantifying the impact of particle generation, by monitoring the processes and activities, including demolition, carried out on a construction site, and reporting on dust generating equipment. A

recent report from the BRE confirmed that most particles from construction activities are of a larger size than PM_{10}, together with an observation that particles are indistinguishable from background levels within 150m of a large site. Nevertheless, air quality impact assessments (largely using the Design Manual for Roads and Bridges) have been a feature of a number of large redevelopment schemes. At the Battersea Power Station site an Environmental Impact Assessment is being prepared and this will include consideration of air quality impacts with a view to minimising adverse effects.

7. The Mayor's Air Quality Strategy for London

In 2000 the Greater London Authority (GLA) was established and consists of a directly elected Mayor and separately elected London Assembly. The GLA forms a central strategic government for London. The Greater London Authority Act 1999 required the Mayor of London to publish an Air Quality Strategy for the capital, incorporating proposals for implementing the policies contained in the National Air Quality Strategy in Greater London and guiding the London boroughs.

The Mayor's Air Quality Strategy was published in autumn 2002. It includes proposals that London boroughs are expected to implement and incorporate into their own air quality action plans to improve air quality across London. The Mayor's proposals include:

- Increasing the number of cleaner vehicles;
- Supporting a feasibility study for one or more Low Emission Zones in London;
- Reducing emissions from vehicles operated by or licensed through functional bodies;
- Using traffic management infrastructure to reduce emissions;
- Reducing emissions from freight movement;
- Encouraging proper maintenance of vehicles and more efficient driving;
- Reducing emissions from buildings and industry;
- Reducing emissions from building sites;
- Enabling continued research into London's air quality;
- Lobbying government to improve national measures to further promote reductions in air pollution.

The Council recognises that many of the objectives contained within the Mayor's Air Quality Strategy coincide with objectives already previously adopted by the Council. This should assist in delivering improved air quality in Wandsworth.

8. The Air Quality Action Plan for Wandsworth

The second requirement of the Environment Act 1995 when an AQMA is designated, is for the local authority to prepare an action plan to demonstrate how the authority intends to pursue the achievement of air quality standards and objectives in the AQMA. An air quality action plan should include those measures that the local authority intends to implement to work towards achieving the air quality objectives in its area that its own assessment has indicated are unlikely to be achieved if no actions are taken.

An action plan shall include a timetable for implementing any proposed measures, it should be made available for consultation, and it should be regularly reviewed. The Government's guidance suggests that, in developing an action plan, local authorities should take into account the following:

(a) carefully assess the options available to them to improve air quality in air quality management areas;
(b) involve all relevant local authority professionals and departments to ensure a properly balanced and integrated approach;
(c) achieve the right balance between the use of regulatory powers and other non-regulatory measures;
(d) ensure that the relative contributions of industry, transport and individuals are cost-effective and proportionate;
(e) evaluate the wider environmental, economic and social consequences of each option.

The Air Quality Action Plan for Wandsworth aims to protect the health of all those who live, work and visit the borough. To achieve this aim, the Action Plan adopts the following approach:

1) Providing accurate and up to date information on air pollution levels in the borough both now and in the future.
2) Ensuring all council activities consider the effect on air pollution.
3) Taking all reasonable steps to minimise the impact of council activity on air pollution.
4) Taking a lead role in helping the community make changes necessary to improve air quality.
5) Working in partnership with stakeholders to achieve a reduction in air pollution.
6) Working in the context of regional and national strategies.
7) Taking a balanced approach using policy, regulation and good practice.

The action plan focuses on NO_2 and PM_{10}, the pollutants of concern identified by the review and assessment procedure as unlikely to meet the air quality objectives in the borough. It is clear from the reviews at stage 3, and stage 4, that the main source of these pollutants in the Borough of Wandsworth is from road transport. Other priority pollutants of the national air quality strategy are not considered in the action plan as they have not been identified as potential risks in Wandsworth. Nevertheless, a number of these continue to be monitored in the borough, including ozone, carbon monoxide, sulphur dioxide and benzene.

The emphasis of the action plan is mainly concerned with reducing emissions from road transport vehicles, through traffic restraint and reduction schemes, emissions improvements and regulation, combined with balancing measures such as improved walking, cycling and public transport. Notwithstanding this, the non-transport related sources are also targeted where possible.

Options that displace traffic and the associated emissions elsewhere are not considered desirable if such options risk creating another area which may fail to achieve an air quality objective. It should be noted that there is no single defined centre to the borough, rather a number of local 'town' centres. Due the presence of

the A205 South Circular road and the A3 trunk road within Wandsworth, and the large number of bridges crossing the River Thames into Wandsworth, a considerable amount of traffic is thought to be through-traffic not originating from within the borough. The possible effects of traffic displacement as a result of the central London congestion charge zone were not modelled in the stage 4 review and assessment, as the traffic figures were not known at that stage. It may be possible at a future date, perhaps as part of an annual updated screening assessment, when traffic data becomes available.

The Council recognises that some measures that could improve air quality *locally* need to be applied by *national* government and many have been put in place or await start dates. Examples include improvements to fuel quality standards (such as sulphur content), aircraft emissions, and financial incentives to lower emissions. The action plan proposals are in addition to such measures although Wandsworth may, in its own right or through a regional grouping, propose to make representations to the national government or its agencies on such issues.

The measures that the Council will implement in this action plan are divided into 7 categories:

1. Measures aimed at reducing the use of cars.
2. Measures aimed at reducing emissions from vehicles.
3. Development control.
4. Enforcement of regulatory powers.
5. Energy use and heating.
6. Education and promotional initiatives.
7. Encouraging businesses.

9. Air Quality and Non Air Quality Impact of Measures within the Action Plan

Local action has an important role to play in improving air quality but pollution does not respect borough boundaries, so concerted action over a much wider area is needed to fully address the issue. It is important to appreciate that local action by the Council must also be complemented by action on a wider scale, both in neighbouring boroughs and London-wide.

1. Measures aimed at reducing the use of cars.

The detrimental effects of motor traffic include congestion, air pollution, noise, diminished vitality of urban areas, reduced efficiency of public transport and road accident casualties. Road traffic is predicted to increase markedly over the coming years and local measures are needed to reduce this demand and where possible, reduce the number of vehicles on the roads in the borough. It should be noted that through-traffic has been identified as a significant component of traffic within the borough and reduction of such traffic depends on wider scale action.

Measures within the action plan to reduce the use of cars will have an air quality impact, albeit low, which will reduce emissions of NO_2 and PM_{10} through a reduction in the number of car journeys.

Many car journeys are less than two miles and in terms of air quality this is particularly important because pollution reduction technology such as catalytic converters do not reach their proper working temperature during such short trips.

Travel plans for employees may reduce the need for parking, reduce congestion and foster improved relations between employers, employees and local residents. Cycling and walking may improve the local environment, reduce noise and encourage health and fitness. Increased levels of walking to school may reduce peak time congestion, encourage healthier children, remove discrimination between communities and improve road safety. Increased use of public transport makes more efficient use of road space and reduces congestion but requires substantial financial support. Controlled parking zones may improve local amenity, improve local residential access, help less mobile people and help local businesses and customers.

2. Measures aimed at reducing emissions from vehicles.

Major improvements can be achieved by increasing the numbers of modern cleaner vehicles. Newer vehicles have much lower emissions because of European legislation implemented over the past decade (known as Euro standards).

It is possible to accelerate the introduction of cleaner vehicles, and reduce the numbers of older, more polluting vehicles, through a low emission zone (LEZ). An LEZ is a defined area that can only be entered by vehicles meeting certain emissions criteria or standards.

The London Low Emission Zone Feasibility Study was published in July 2003. The main conclusions of the study are that if an LEZ is to be pursued:

- It should cover the whole of the London area.
- It should initially target lorries, buses and coaches.
- It could be introduced after late 2006.
- Standard for entry into an LEZ should start at Euro Standard II plus Reduced Pollution Certificate.
- Alongside an LEZ, schemes to tackle the very oldest cars and vans should be investigated.
- The suggested LEZ should achieve a 20% reduction in total PM_{10} emissions in 2010, a 40% reduction in the area of London exceeding the relevant PM_{10} air quality targets and a 19% reduction in the area of London exceeding the relevant NO_2 air quality target in 2010.

The Council considered a report on the study in November 2003 and supported detailed consultation on the proposals The Council considered that, as an LEZ will not be self financing, the costs of implementing and operating any scheme should be met by the Government.

The introduction of an LEZ may improve the urban environment, prejudice older vehicles, promote new technologies, have high cost of setting up and enforcing, and impact local, London and national businesses.

Other measures aimed at reducing emissions from vehicles include improvements to the Council's own fleet under the Council's fleet greening strategy. Vehicles provided

for the Council contract for waste and recycling collection are required to comply with a minimum of Euro III. There are gas refuelling facilities and two charging points for electric vehicles at the Council depot. The Council is waiting to trial water-diesel emulsion in order to evaluate its effectiveness in reducing emissions.

The Council has powers to enforce vehicle emission standards by carrying out roadside testing, currently in conjunction with the police. New legislation is underway that removes the requirement to operate in conjunction with the police. The Council is participating in the London-wide programme of vehicle emission testing. However, funding for the programme finishes in March 2004 and is unlikely to be available in future years. Once the programme has been evaluated, the Council will consider further action, although significant funding, that has not been identified, would be required to continue testing as a single borough. Further consideration will be given to voluntary testing as a promotional activity. Testing may increase awareness in environmental issues generally but may penalise low income groups who are more likely to be recipients of fixed penalty notices.

In addition to roadside testing, the Vehicle Emissions Regulations also allow penalty notices to be issued to drivers who, without good reason, leave their engines idling while parked and the Council will consider how best to implement the regulations. Initially, the Council proposes to work with transport operators and companies to educate their drivers and ensure that they understand the implications of the enforcement powers.

It is important that a 'green fuel' refuelling infrastructure is in place to enable the uptake of cleaner fuels. While there are now more than 1000 public liquified petroleum gas (LPG) refuelling sites in the UK, less than 30 of these are currently in the Greater London Area. At present there are two LPG refilling stations operating in the Borough (Shell, 262 York Road, SW18 and BP, 62 Trinity Road, SW17).

There are considerable financial advantages in operating LPG-fuelled vehicles, with no performance, servicing or fuel efficiency penalties (and congestion charge exemption), and with reduced emissions particularly when compared with diesel vehicles. Provision of such refuelling points also increases personal choice.

3. Development control.

The Council's revised Unitary Development Plan (UDP) was adopted in August 2003. It includes policies to promote a sustainable relationship between development and transport. It provides the framework for land-use planning in the borough and aims to ensure an integrated and consistent approach to land use. Policies will largely be implemented through consideration of planning applications. Development plans usually have a variety of environmental and socio-economic impacts. In order to assess and monitor the air quality impacts of very large scale developments, the Council will expect proposals and commitment to monitor such impacts on a long term basis.

The Mayor's strategy requires the Council to consider UDP supplementary planning guidance on air quality. This requirement has been included as a new action within the plan.

4. **Enforcement of regulatory powers.**

Under the Environmental Protection Act 1990, certain categories of industry must have an authorisation to operate issued by either the Environment Agency or the Council. The Council will continue to regulate local industrial processes by regularly inspecting all 'Part B' processes in the borough. Regulating industry helps to keep concentrations of all pollutants at acceptable levels, not just NO_2 and PM_{10}. Inspections are carried out in line with DEFRA guidance to ensure that emissions do not lead to exceedances of the national air quality objectives.

Dust emissions from construction and demolition sites are a common problem and small particles being blown from such sites can represent a significant source of local pollution. Also, because of their small size, the particles can be carried over long distances even in light winds. The Council will continue to enforce the legislation in relation to dust nuisances construction sites, together with a proactive response to demolition and construction site companies by developing an environmental code of practice that will contain advice on how to keep environmental impacts to a minimum.

The whole borough is covered by Smoke Control Orders which make it an offence to emit smoke from a chimney arising from the burning of an unauthorised fuel. New residents to the borough may be unaware of the implications and it is therefore proposed to provide information and advice through a targeted leaflet and to enhance the information on the Council's website.

5. **Energy use and heating.**

Promoting energy efficiency schemes and encouraging a reduction in energy use means that less fossil fuels are used, which should have a beneficial impact on reducing pollution levels as well. Improved energy efficiency may also reduce fuel poverty. However, there may also be a negative effect on indoor air quality.

The Council introduced an energy code of practice in 2000 to provide guidelines on achieving energy efficient design in new and existing building works. The guidelines have been applied to refurbishment projects in education and housing premises.

Purchasing energy from renewable sources may reduce carbon dioxide emissions, encourage green technologies and their supply and encourage others to adopt similar practices.

6. **Education and promotional initiatives.**

Educational and promotional activities help to raise awareness not only of air quality issues but also wider environmental issues. Travel and transport awareness campaigns encourage alternative modes of transport. School visits raise awareness among children and young people about environmental issues generally and in particular about the implications of their own contribution to air pollution from their journeys to and from school and what action can be taken.

The Council's air quality website provides background information on air quality issues within the borough and a direct link to the London Air Quality Monitoring Network for details of current levels within the borough. The website will be

enhanced to provide further information together with a section on what individuals can do to help improve air quality.

There is clearly a need to promote a greater awareness of air quality issues and it is proposed to develop a strategy in conjunction with local environmental groups to do so.

Garden bonfires can contribute to raised levels of particles locally as well as being a source of complaint and nuisance. The Council will collect up to 3 bags of garden waste from each household each week free of charge and has distributed over 6500 home composting units to date to encourage residents to compost suitable kitchen and garden waste at home. While the Council is confident of meeting its statutory target to recycle or compost 16% of household waste during 2003/4, it is anticipated that Borough-wide garden waste collections for centralised composting will play a crucial role in achieving the statutory target for 2005/6. Further promotion of garden waste collection is therefore essential.

The officer group responsible for reviewing and monitoring progress of the action plan will also set objectives for the next two years including recommendations from the London Sustainable Development Partnership, developing Freight Quality Partnerships and the scope for freight vehicles using priority lanes and the implications for other road users. Freight management may reduce noise levels and improve the urban environment.

The group will also consider a report on the contribution made by trees to reducing air pollution.

7. Encouraging businesses.

The Government funds schemes through the Energy Saving Trust to encourage the market for vehicles running on LPG, natural gas and electricity by covering part of the additional costs of purchasing or converting clean fuel vehicles (Powershift Programme) or for fitting emission reduction technologies such as particle traps on commercial diesel vehicles (Cleanup Programme).

Information and education programmes to businesses may reduce business costs and raise awareness of wider environmental issues.

10. 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.

However, the value of assessing the cost effectiveness of the actions is limited for a number of reasons. Many of the actions were being implemented by the Council prior to the formulation of the action plan. Other actions are statutory duties of the Council and must be carried out. 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. For these reasons, a quantitative method of prioritisation has not been used.

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 wider package of measures
Medium	Impact is borough-wide
High	Impact is city-wide in partnership with other organisations

These ratings are used to determine the cost/impact shown in the air quality action plan table. The existing Council budgets are able to meet the costs of most of the actions defined within the low cost rating definition. Those actions categorised as medium or high require additional funding. The action plan table confirms whether additional funding has been identified and secured.

11. Consultation

Action plan measures fall within the remit of different operational sections of the Council, including: transportation, planning, fleet management, environmental services, waste management, education and economic development. The measures were developed jointly by officers working in these areas and the approach included developing ideas, exchanging information, building up the range of options and assisting in the formulation of local policy, funding and proposals. These sections are also involved in, contribute to and benefit from a variety of other groups – for example, the London low emission zone steering group, air quality cluster groups, joint transport projects including London Buses, and business and economic development bodies.

The draft Air Quality Action Plan was approved for consultation by the Environment and Public Services and the Regeneration and Transport Overview and Scrutiny Committees and the Executive in June 2003. The Council 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. Copies of the consultation draft Air Quality Action Plan were sent to:-

The Greater London Authority (GLA)
The Department for the Environment, Food and Rural Affairs (DEFRA)
The Association of London Government
The Environment Agency
English Nature
Thames Water
St George's Healthcare NHS Trust (Consultants for Communicable Diseases Centre)
The neighbouring Councils of Croydon, Richmond, Lambeth, Merton, Hammersmith and Fulham, Kingston-upon-Thames and Kensington and Chelsea.

In addition, copies were sent to the Wandsworth Chamber of Commerce, Young & Co. Brewery plc, the Wandsworth Environment Forum, the Borough Residents' Forum and the Wandsworth Community Empowerment Fund Network.

The consultation was also featured on the Council's website home page where the opportunity to comment was highlighted and included an invitation to comment on-line. The document was available through the Council's website as a downloadable file.

All comments received as part of the consulation process were considered prior to re-drafting this final version of the Air Quality Action Plan.

12.Monitoring the Action Plan

The Council's air quality action plan integrates with other key strategies and schemes to help reduce pollution in the borough. A number of measures aimed at reducing reliance on car use and/or reducing emissions from vehicles are already in place in Wandsworth and are identified as existing in the Action Plan. Other measures proposed in the draft action plan have been informally actioned and are also identified as existing in the Action Plan.

An officer-level forum will be set up to regularly monitor and review the implementation of the measures contained within the Action Plan. A report on the progress of the plan will be submitted to the Council on an annual basis.

The detailed action plan measures for Wandsworth are presented in Appendix A. There are 32 actions listed under the 7 categories of measures. Each action is described, how it will be implemented and the section/department of the Council responsible for the action. Target dates and indicators to assess achievement are also given where appropriate, together with an indication of cost and air quality and non air quality impact and whether funding is identified and secured. In addition, the most relevant proposals contained within the Mayor's Air Quality Strategy are indicated against the actions when applicable.

APPENDIX A

AIR QUALITY ACTION PLAN MEASURES

1. MEASURES AIMED AT REDUCING THE USE OF CARS						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
1.1 Continue to implement and review the Council Services Transport Plan - promoting alternative modes of transport to the car, for both journeys to work and business related journeys. (existing)	Transport Planning, DTS	Re-launched in summer of 2003 with new staff information booklet and regular newsletter. Bicycle Users Group (BUG) also re-launched with free reflective equipment for cyclists.	Completed. To be reviewed annually.	Low/Medium	Using existing staff resources	76
1.2 Encourage and provide support to other major employers in the Borough to develop their own Transport Plans. (existing)	Transport Planning, DTS	Focus Group meetings established involving Roehampton University, NHS Trusts, public transport operators and other interested parties to help steer implementation of Roehampton travel plans. Top 100 businesses in the borough targeted with travel plan advice including a Cycle Friendly Employers Guide. Further development of travel plans with selected employers anticipated following up this initiative.	Ongoing. Implementation of Roehampton Travel Plans Number of employer Travel Plans developed	Low/Medium	Using existing staff resources	76

1. MEASURES AIMED AT REDUCING THE USE OF CARS (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
1.3 Provide public transport information on the Council website. (existing)	Transport Planning, DTS	Travel planner available on Council website allowing routes to be planned by train and underground	Travel planner implemented, further improvements ongoing. Number of website visits to the travel planner	Low/Low	Using existing staff resources	76
1.4 Develop a walking strategy for Wandsworth, to promote walking, particularly for shorter journeys. (existing) Co-ordinate Wandsworth Walking Strategy with TfL Walking Plan for London. (new)	Transport Planning, DTS	Public consultation May 2003. Implementation of actions subject to funding availability. Improvements to walking routes identified following Balham Community Street Audit	Strategy to be refined late 2003/4 Some elements to be implemented 2003/4. Identification and implementation of elements identified	Low/Medium	Borough Spending Plan, TfL revenue budget. Funds from Central London Partnership	76

1. MEASURES AIMED AT REDUCING THE USE OF CARS (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
1.5 On-street parking controls to reduce the number of people driving to stations in this Borough to continue their journey by rail into Central London. (existing)	Engineering Services, DTS	Controlled parking zones in operation throughout more than 70% of the Borough. Generally the areas outside this network are those furthest away from stations. Continual consultation and evaluation.	Reviewed annually.	Low/Low	Within existing resources	
1.6 Continue the School Travel Strategy – working with schools to implement packages of measures (existing)	Transport Planning, DTS	3 clusters of schools invited to join each year. Participating schools carry out surveys to identify travel habits and to inform proposals for improvement	Ongoing programme. Number of surveys carried out, development of school policy, facilities provided within schools, incorporation of school travel into the curriculum, number of 'walking buses'	Medium/Low	Funding for post confirmed for further 2 years	76

1. MEASURES AIMED AT REDUCING THE USE OF CARS (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
1.7 Promote the use of public transport. (existing) The Council will continue to work with public transport undertakers to facilitate improvements o both the quantity and quality of public transport. This will include working with TfL London Buses, the bus operators, the bus companies and railway operators through sub-regional partnerships such as the South and West London Transport Conference (SWELTRAC)	Transport Planning, DTS	Work with TfL and the bus operators to identify and promote additional or enhanced bus services and implement further bus measures through membership of the London Bus Initiative Partnership. This will include: • Additional or enhanced bus priority • Improved facilities at bus stops including timetables, Countdown, etc. • Improved buses • Enforcement of bus lanes using both CCTV and bus cameras	Ongoing: Passenger numbers on bus services in the borough,	Low/High.	BSP/TfL	14, 25

2. MEASURES AIMED AT REDUCING EMISSIONS FROM VEHICLES						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
2.1 With other London Boroughs, implement a London-wide low emission zone (LEZ). (existing)	Environmental Services, DTS	Feasibility study completed and reported in Paper No. 03-826. The Council supports detailed consultation on the proposals and has deferred a decision on whether to support the principle of a low emission zone until such consultation is complete.	Earliest implementation of LEZ late 2006	High/High.	No current provision	10
2.2 Continue to pursue Council fleet 'greening' strategy. (existing)	Fleet Management, DTS 020 8871 6958	Maintain and monitor the register of fleet vehicles including emissions information. Continue acquisition and replacement programme for Council vehicles to maximise use of green fuels. Continue driver education and training to discourage drivers from revving/idling engines. All waste and recycling contract vehicles to comply with minimum of Euro 3 standard.	Ongoing Fleet vehicle register updated and monitored regularly. % vehicles using green fuels % drivers trained Completed	Medium/Low	Within existing resources	2, 23, 65

2. MEASURES AIMED AT REDUCING EMISSIONS FROM VEHICLES (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
2.3 Lobby government to bring about improvements in fuel composition, e.g. further reduction of sulphur level in fuel to 10mg/l from 50mg/l. (new)	Environmental Services, DTS	To support proposals in Mayor's Strategy encouraging the government to provide incentives for cleaner fuels and follow up with representation to government from Wandsworth Council.	March 2004 Representation sent	Low/High	Within existing resources	4
2.4 Continue to support the Vehicle Emission Testing Group. (existing)	Environmental Services, DTS	Continue to participate in the London-wide programme of vehicle emission testing in 2003/4. Consider further action when evaluation of the 2003/4 programme completed.	Ongoing to March 2004 Evaluation reported to committees	High/High	2003/4 programme fully funded. Further funding requirement dependent on proposed action..	9
2.5 Investigate the use of water-diesel emulsion instead of conventional diesel for the Council's vehicles (existing)	Fleet Management, DTS	Awaiting sample requested from manufacturer for trial in Council vehicles.	Ongoing – initially dependent on supply of sample by manufacturer; number of vehicles successfully using water-diesel emulsion	Low/Medium	Within existing resources	2, 4, 11

2. MEASURES AIMED AT REDUCING EMISSIONS FROM VEHICLES (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
2.7 Promote and encourage the development of a 'green fuelling' infrastructure within the Borough. (existing)	Environmental Services, DTS	Review the potential for the installation of cleaner fuel refuelling sites, including natural gas, and the provision of electric vehicle charging points throughout the Borough. Publicise cleaner fuel refuelling sites within the Borough.	Ongoing Number of cleaner fuel refuelling sites March 2004 on Council website	Low/Medium	Within existing resources	2, 7, 66

3. DEVELOPMENT CONTROL						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
3.1 The Council's revised Unitary Development Plan includes policies to promote a sustainable relationship between development and transport and includes maximum parking levels. Policies will largely be implemented through the consideration of planning applications. (existing)	Planning, DTS	The Council will support development proposals that contribute to a safe, accessible and integrated transport system, improve facilities that encourage greater use of public transport, cycling and walking, and enable bulk freight to be moved by water or rail rather than by road.	Revised Plan Adopted August 2003	Low/Medium	Within existing resources	68, 69, 70, 71 & 72
3.2 In dealing with planning applications, the Council will take into account a proposed development's likely effect on air quality, both in terms of any air pollution it may cause directly and in terms of traffic generation. (existing)	Planning, DTS	Implementation arises in response to the submission of planning applications. The Council will require the submission of an environmental impact assessment for development which may give rise to air pollution. Where a development is likely to generate a significant level of traffic, a Transport Assessment is required. Mitigation measures may be required as planning conditions or as obligations within a Section 106 planning agreement.	Ongoing	Low/Low	Within existing resources	71, 72

3. DEVELOPMENT CONTROL (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
3.3 UDP supplementary planning guidance on air quality. (new)	Planning, DTS	Consider the need to produce supplementary planning guidance.	June 2004	Medium/Low	Within existing resources	70

4. ENFORCEMENT OF REGULATORY POWERS						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
4.1 Continue to enforce the Environmental Protection Act 1990 in relation to processes prescribed by Schedule 1 Part B of the Act. (existing)	Environmental Services, DTS	Inspect all prescribed processes in accordance with Defra's guidance to ensure compliance with the conditions of the authorisation/permit, and act upon complaints and suspected or actual breaches of conditions in a timely manner. Monitor the Borough to ensure that all prescribed processes are authorised/permitted and take action where such processes are not authorised/permitted.	Ongoing Compliance with legal requirements	Low/Low	Within existing resources	41, 42
4.2 Continue the thorough investigation and resolution of nuisance complaints that have an air pollution component, such as bonfires and dust from demolition and building works. (existing)	Environmental Services, DTS	Investigate and resolve complaints, where necessary, by the enforcement of Section 80 of the Environment Protection Act 1990. Give advice and distribute leaflets on request.	Ongoing Compliance with response targets	Low/Low	Within existing resources	47

4. ENFORCEMENT OF REGULATORY POWERS (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
4.3 Develop a proactive response to demolition and construction work. (new)	Environmental Services, DTS	Develop an Environmental Construction Code of Practice that will contain advice to developers on how dust, particle emissions and other environmental impacts can be kept to a minimum. Work with other departments towards developing a Considerate Contractor Scheme to encourage best practice.	March 2005 Code produced March 2005 Scheme developed	Medium/High	Additional funding may be required, dependent on development of code.	47
4.5 Promote a greater awareness that the whole Borough is covered by Smoke Control Orders, and that the use of some solid fuels is prohibited to prevent emission of dark smoke. (existing)	Environmental Services, DTS	Produce advice leaflet on smoke control for new and existing residents. Enhance the information on the Council's website.	June 2004 Advice leaflet produced. March 2004 Website updated	Low/Medium	Within existing resources	84
4.6 Consider how best to utilise the powers under the Road Transport (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 to require drivers to switch off their engines when parked. (new).	Environmental Services, DTS	Investigate the most appropriate way to implement the regulations to control idling engines. Work with transport operators and companies to educate their drivers and ensure they are aware of the enforcement powers.	March 2004 Ongoing	High/Low	Additional funding may be required.	

5. ENERGY USE AND HEATING						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
5.1 The Council will reduce carbon dioxide emissions from Council premises by 10% below the 1990 level. (existing)	Energy Management, DTS	Purchase energy for the Council from renewable sources. Introduce additional controls for air conditioning units in Council buildings. Reduce mains electricity usage by CHP	2010 % energy from renewable sources purchased by the Council %, number and type of additional controls for air conditioning units in Council buildings % reduction in mains electricity by using CHP	Low/Low	Within existing resources	50-52
5.2 The Council will encourage energy efficiency measures and insulation in domestic dwellings to reduce energy use. (existing)	Environmental Services, DTS	Assistance for low income householders for energy efficient measures including Energysmart, Warmfront Advice and referral system for renewable energy sources. Support for Solar for London, and Sunrise.	2011 HECA target to improve energy efficiency of residential housing stock by 30% over 15 year period from 1996. Annual report to Government. Comparison of SAPs from House Condition Surveys.	Medium/Low	Council and, Government grants	51

5. ENERGY USE AND HEATING (cont)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
5.3 The Council will encourage energy efficient measures and energy efficient design in new buildings and redevelopment within the borough. (existing)	Planning and Building Control DTS	UDP objectives can be encouraged through the development control process. Implementation and control relies on the Building regulations	Ongoing Report on inclusion of energy efficient design and measures in planning approvals and construction.	Low/Medium	Within existing resources	46, 50

6. EDUCATION AND PROMOTIONAL INITIATIVES

ACTION (EXISTING/NEW)	SECTION/ DEPARTMENT RESPONSIBLE	IMPLEMENTATION	TARGET DATE & INDICATORS	COST/IMPACT	FUNDING IDENTIFIED & SECURED	MAYOR'S STRATEGY PROPOSAL
6.1 Continue to monitor air quality and maintain air quality monitoring sites in association with ERG. (existing)	Environmental Services, DTS	Measure NO2, PM10 and other pollutants including SO2, ozone and benzene. Disseminate information through the Council Website and the Air Quality hotline. Continue to support London's Air Quality Network.	Ongoing Annual report to Committee	Low/Low	Through divisional budget	62
6.2 Promote travel awareness campaigns, including initiatives with TfL (existing)	Transport Planning, DTS	Don't Choke Wandsworth Travelwise Week Commuter Challenges Walk to School Week	Annual campaigns Number of people participating in campaigns, Number of schools participating May and October	Low/Low	Within existing resources	2
6.3 Encourage and promote the benefits of cleaner road vehicles. (existing)	Fleet Management, DTS	School programme of visits promoting environmentally friendly vehicles and alternative fuels	2005 % schools visited	Low/LoW	Within existing resources	2
6.4 Promote the collection and composting of garden refuse to reduce the incidence of garden bonfires. Promote home composting (existing)	Waste Management, DOLAS	Regular garden waste collection Distribute home composting units	Implemented Ongoing Number of units distributed	Low/High	Within existing resources	48

6. EDUCATION AND PROMOTIONAL INITIATIVES (cont.)						
ACTION (EXISTING/NEW)	**SECTION/ DEPARTMENT RESPONSIBLE**	**IMPLEMENTATION**	**TARGET DATE & INDICATORS**	**COST/IMPACT**	**FUNDING IDENTIFIED & SECURED**	**MAYOR'S STRATEGY PROPOSAL**
6.5 Promote a greater awareness of air quality issues, including air quality data, the sources of pollution, its effects and how individuals and organisations can bring about improvements. (new)	Environmental Services, Transport Planning, DTS DOLAS	Develop a strategy to raise awareness of air quality issues: work with local environmental groups to raise awareness of air quality issues among schools, businesses , health authorities and the public; Officer group to consider recommendations from the London Sustainable Distribution Partnership; consider developing Freight Quality Partnerships; assess the scope for the use of priority lanes by freight vehicles and the implications for other road users; consider Clear Zones; consider the contribution made by trees to reducing air pollution;	June 2004 Meet with local environmental groups December 2004 Awareness Strategy produced March 2004 Officer monitoring group formed and objectives set for next 2 years	Low/High	Within existing resources	19, 20, 21, 22, 26, 84

7. ENCOURAGING BUSINESSES

ACTION (EXISTING/NEW)	SECTION/ DEPARTMENT RESPONSIBLE	IMPLEMENTATION	TARGET DATE & INDICATORS	COST/IMPACT	FUNDING IDENTIFIED & SECURED	MAYOR'S STRATEGY PROPOSAL
7.1. Encourage businesses to switch to the most efficient vehicles and encourage companies to make use of funds available through Powershift, Clean-up and Motorvate schemes.	Environmental Service, DTS	Develop information and education programmes for businesses	December 2004 Number of businesses contacted	Low/High	Within existing resources	74, 75, 77
7.2 Provide advice to businesses in the borough on energy use, reducing emissions, improving indoor air quality and environmental management schemes.	Environmental Services, DTS	Develop information and education programmes for businesses	December 2004 Number of businesses contacted	Low/High	Within existing resources	80 - 82
7.3 Work with businesses to discourage unnecessary idling of vehicles, for example, delivery vehicles. (existing)	Environmental Services, DTS	Develop information and education programmes for businesses	December 2004 Number of businesses contacted and implementing driver programmes	Low/High	Within existing resources	2

APPENDIX B

GUIDANCE USED IN DRAFTING THE ACTION PLAN

AEA Technology. The London Low Emissio***n Zone Feasibility Study. 2003***

AQEG. Nitrogen Dioxide in the United Kingdom. 2003

BRE. Guidance on control of dust from construction and demolition activities. 2003

DEFRA. LAQM.PG(03) Local Air Quality Management. Policy Guidance. 2003

DEFRA. LAQM.TG(03) Local Air Quality Management. Technical Guidance. 2003

DETR guidance note. LAQM.G2(00) Developing Local Air Quality Action Plans and Strategies: The Main Considerations. 2000

DETR/APEG. Source Apportionment of Airborne Particulate Matter in the United Kingdom. 1999

ERG. Stage 4 Review & Assessment for Wandsworth Council. 2003

GLA. The Mayor's Air Quality Strategy. 2002

GLA. London Atmospheric Emissions Inventory 2001. 2003

NSCA. Air quality: Planning for action. 2001

APPENDIX C

Figure 1 Predicted annual mean nitrogen dioxide for 2005 in the Wandsworth Council's area
(based on 1999 meteorology)

Figure 2 Predicted number of days > 50 ug/m3 PM10 for 2004 in the Wandsworth Council's area
(based on 1996 meteorology)