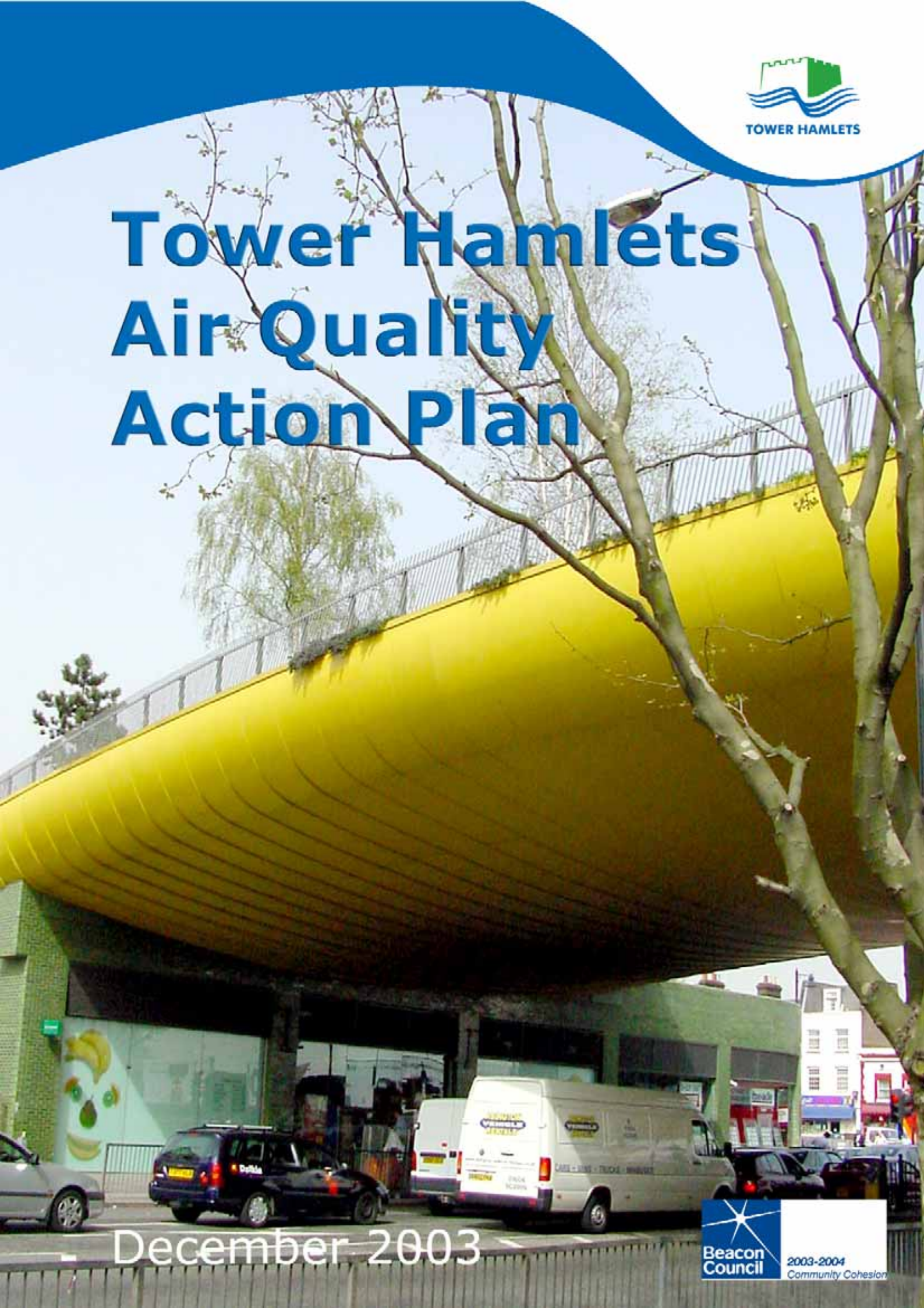


Tower Hamlets Air Quality Action Plan



December 2003

Environmental Health, Health Protection Division

The London Borough of Tower Hamlets

Air Quality Action Plan

December 2003

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Foreword

The Air Quality Action Plan progresses this Council's commitment to improving air quality and providing a cleaner environment for all people who live and work in the borough. This issue has been identified as a high priority for people in local communities and the Council's efforts to respond to public opinion is welcomed.

The Air Quality Action Plan has been produced to address the issues raised in the earlier Review and Assessment process. Recognising that the national objective for nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀) are unlikely to be met by the prescribed deadlines, the plan focuses on tackling the sources of these pollutants. As the main cause of the problem is road transport, the Council cannot deliver improvements on its own. There is not a single quick-fix solution to the problem but positive results can be attained by everyone acting collectively.

The Action Plan's analysis of available options clearly shows the wide range of activities that can make a difference. Although not all of the methods will be cost effective, it is important to show that full consideration has been given to possible measures. In particular, the holistic approach adopted in the Action Plan and the recognition of the need for coordination between Environmental Health, Environmental Protection Division, other Council departments and external organisations is greatly welcomed.

The measures and targets included will provide a sound basis for future review and it is hoped that real improvements in air quality will be seen in the future.

Councillor Uz Zaman,
Lead Member Environment



Executive Summary

The Tower Hamlets Air Quality Action Plan is a document that examines the various measures for improving air quality within the borough and assesses each for its cost-effectiveness. This assessment involves consideration of the impact that the measure is likely to have on air quality, socio-economic factors and the anticipated costs incurred. From this, the most cost-effective actions can be determined as well as the input that Tower Hamlets Council can have towards improving air quality.

Detailed modelling has predicted that two key pollutants, namely nitrogen dioxide and fine particulate matter (PM10) will exceed the objectives set by Central Government for 2004 - 2005.

The main cause of these two pollutants is exhaust emissions from road transport and thus a large part of the action plan concentrates on these activities.

The document also shows that to achieve improvements in the Borough's air quality, a number of internal and external departments and organisations need to be involved. The key to the success of the plan is the initiatives and work undertaken by the Mayor of London and Transport for London. Public transport infrastructure, strategic regional policies and main A-road controls are areas where the Council can have influence and provide support but are ultimately outside of its control.

Tower Hamlets Council will do its utmost to achieve improvements in levels of air pollution. However, it is reliant on outside organisations to co-operate and implement measures that reduce air pollution in the Borough.

The primary aim of the Tower Hamlets Air Quality Action Plan is to improve the air quality for all who live, visit and work in the Borough.

Ten Key Objectives of the Tower Hamlets Air Quality Action Plan

1. Monitor air quality to measure the success of our actions over time.
2. Use a Geographical Information System to map trends and target areas for improvement and fully integrate this into the decision-making process for the Council's key development strategies.
3. Actively support and take part in the London wide Vehicle Emissions Testing Scheme.
4. Use Controlled Parking mini-zones to target congested parking around tube stations and bordering the Central London Congestion Charging Zone.
5. Implement a comprehensive Streetscene programme to improve the street environment in Tower Hamlets. This takes a targeted approach to implementing Home Zones in residential areas, improving street signage and removing street clutter, improving safety for cyclists and improving the pedestrian environment.
6. Lead by example by using a fleet of electric vans for Pest Control within the Environmental Health, Environmental Protection Division.
7. Develop Supplementary Planning Guidance for Planning Applications, requiring submission and approval of air quality assessments for major developments before development can commence.
8. Support and facilitate the development of major transport infrastructure improvement projects in the borough including CrossRail and the two to three car expansion of the Docklands Light Railway.
9. Support the development and implementation of a Low Emission Zone for London.
10. Establish a Council Vehicle Fleet Register with a full emissions inventory for Council and Contractors' vehicles together with an emissions improvement programme.

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1 Introduction

The Environment Act 1995 came into force following a directive from the European Union and required a National Air Quality Strategy to be produced. For the first time, this set national air quality standards and objectives.

The Strategy set objectives for 8 key pollutants to be achieved by specific deadline dates ranging from 31 December 2003 to 31 December 2010. It also placed a statutory duty on every local authority to carry out a review and assessment of current levels of local air pollution and to predict whether the national objectives would be met by the prescribed deadlines.

Where non-compliance is likely, the local authority must declare an Air Quality Management Area and produce an Action Plan detailing how it proposes to work towards attaining the objectives.



Where non-compliance is likely, the local authority must declare an Air Quality Management Area and produce an Action Plan detailing how it proposes to work towards attaining the objectives.

Tower Hamlets Council completed its first review and assessment in January 2000. The network of pollution monitors located across Tower Hamlets and predictive computer modelling enabled the Council to determine that certain national air quality objectives would not be met within Tower Hamlets by the relevant deadlines. These are objectives for nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀).

As a result, the borough has been declared an Air Quality Management Area and the Council is under a statutory obligation to produce an Air Quality Action Plan. This must detail the efforts that are being, and will be, made locally and in partnership with others to deliver measurable improvements in air quality that can be sustained for future years.

The most significant levels of air pollution that have been measured come from road traffic.

The most significant levels of air pollution that have been measured come from road traffic. The London Area Transport Study (1991) showed that over 60% of traffic was non-local and travelling through the borough. This trend is set to continue, as Tower Hamlets is located between the City and the expanding Thames Gateway regional corridor.

The Thames Gateway is the focus of substantial new growth. It is London's main reservoir of land for building new affordable homes for London's workforce.

Road traffic generates both nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀)

In addition, a Congestion Charging Zone was introduced in Central London in February 2003. The eastern boundary of this zone lies within the borough of Tower Hamlets and additional through traffic may be created within the borough by cars not wishing to enter the charging zone. The traffic flow along major "A" roads is managed by the Government through Transport for London. Transport for London, therefore, has the potential to exert a major influence on local levels of air pollution.

Road traffic generates both nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀). Domestic and commercial gas-fired boilers are also a significant source of nitrogen dioxide and impact significantly on climate change. In local areas, major construction work is a significant source of fine particulate matter, requiring further study and control.



Major power stations to the east, along the River Thames and into Essex and Kent, pollute the air in Tower Hamlets with sulphur dioxide but are under the direct regulatory control of the Government through the Environment Agency. Assurances have been received from the Government that national standards and objectives will be achieved through a programme of process upgrades, use of cleaner fuels and sophisticated air scrubbing equipment.

The other important air pollutants that have been reviewed and assessed include carbon monoxide, lead, benzene, 1,3-butadiene and ozone. Ozone is considered to be of international concern and cannot effectively be controlled by local authorities. It has been determined that in Tower Hamlets, the national standards and objectives for these pollutants will be met by their respective deadlines.

Tower Hamlets Council supports the strategic and co-ordinated approach adopted by the Mayor and Greater London Authority (GLA) to reduce air pollution across all the London boroughs, of which this Action Plan forms an essential and integral part.

What We Are Trying To Achieve

The Tower Hamlets Air Quality Action Plan (The Action Plan) aims to identify the most cost-effective options available to the Council, community and national agencies to improve local air quality, thus working towards achieving national standards and objectives.

The Action Plan sets out how the Council seeks to manage and continuously improve air quality at the local level. It also provides a mechanism through which prioritised actions and measures can be monitored, reviewed and assessed.

The Action Plan seeks to manage and continuously improve air quality.

Following on from the findings in the Air Quality Review and Assessment, The Action Plan focuses on actions to reduce levels of nitrogen dioxide and fine particulate matter. By targeting these pollutants at source, additional benefits will be achieved as other harmful air pollutants originating from the same source will also be reduced.

The core objective is to improve public health and the quality of life for those who live, visit and work in the borough in line with the Community Plan and the Council's Strategic Plan.

Links with Council Strategies and Action Plans

The Action Plan links together the work being carried out across the Council's Directorates and within the community to improve local air quality.

The Action Plan is focused on influencing the Council's key strategies that lead the social, economic and environmental development of the borough. A reorientation of the priority given to improving air quality is needed at a local level and the realisation that a co-ordinated approach will provide the most cost-effective solutions.

Tower Hamlets Community Plan

The Community Plan is the Council's overarching strategy that establishes the local issues that must be addressed to improve the quality of life for everyone living and working in the borough. Having good air quality and less traffic pollution is regularly identified as a key issue for the local community. This was firmly established during the Community Plan consultation process and community surveys.

Local Agenda 21 Plan

This Plan sets out actions being carried out within the Council and community to promote sustainable development. Improving air quality, reducing road traffic pollution and creating a sustainable transport system was firmly established through the Local

Agenda 21 consultation process as the community's major environmental and health concern. The Air Quality Action Plan will now be used to positively address these concerns.

Local Implementation Plan

The Local Implementation Plan is a council transport management plan which aims to reduce private car use and maximise the use of public transport, cycling and walking. The Plan sets out how transport links across the borough will be improved, how traffic will be managed to flow as smoothly as possible and how congestion will be targeted for action. To achieve a sustainable transport system, that is targeted to improve air quality in a cost-effective manner, essentially requires excellent links to the Air Quality Action Plan. The local consultation process for transport planning ensures that the community has a positive input into prioritising plans for improvement.

The Unitary Development Plan (UDP)

The Council's Unitary Development Plan (UDP) sets out the

development framework for the borough, allocating specific zones of land use and setting out policies for controlling local development.

The scale of residential and commercial development is continually increasing in Tower Hamlets and with it, the potential exists for road traffic and local levels of pollution to rise as well.



The UDP, and its current and future development control policies, significantly affect local air quality and are crucially linked to the Air Quality Action Plan.

Local Parking Plan

The Parking Plan aims to reduce the amount of borough travel and non-essential commuting. It also establishes priorities that are supportive of the Council's wider objectives for transport, environment and sustainable development.

The Parking Plan is an important transport management tool within the Council's Interim Local Implementation Plan and the UDP. It contains the parking standards for new development and sets charges to discourage car parking and use, particularly around congested areas.

Affordable Warmth Strategy

The Tower Hamlets Energy Efficiency Unit has developed an Affordable Warmth Strategy primarily aimed at addressing the issue of fuel poverty in Tower Hamlets but also to address climate change.

The strategy involves making a concerted effort to insulate and improve the energy efficiency of homes across the borough. Well-insulated buildings require less heating, waste less energy and save on domestic heating bills, addressing fuel poverty.

In energy efficient homes, less gas is burnt reducing polluting emissions of nitrogen dioxide. The Affordable Warmth Strategy forms an important part of The Action Plan and action targeted in the most polluted areas will help to improve local air quality.

Conclusion

The Community Plan aims to improve the quality of life for those who live and work in the borough and improving air quality is a key performance indicator of this. The Action Plan examines ways in which air quality within the borough of Tower Hamlets can be improved and, therefore, supports the Community Plan.

Based on the findings of the Air Quality Review and Assessment process, the Council seeks to improve air quality by tackling the sources of nitrogen dioxide and fine particulate matter. This will clearly require the involvement of various Council departments and external organisations. The Action Plan focuses on developing links with other Councils' Strategies and Plans that impact on local air quality and identifying cost-effective solutions.



2 Where We Are Now

A Brief History of Air Pollution

The infamous smogs of 1950's led to the deaths of thousands of Londoners.

Air pollution has been recorded as an issue since the 13th Century. The 18th Century saw a massive expansion of coal burning to feed the energy demands of the industrial revolution. This culminated in the infamous smogs of the 1950s and led to the deaths of thousands of Londoners.

In the 1960s, Smoke Control Areas were introduced to cut levels of harmful air pollutants, particularly smoke and sulphur dioxide. Air quality improved as heavy industry and power stations within the capital naturally relocated outside London and away from the most densely populated areas.

Air pollution in built up areas was effectively controlled and regulated using early Clean Air legislation. However, at the same time that visible smoke and smogs were reducing, road traffic was increasing so that it has now become the greatest source of air pollution in London.

The pollutants are mainly invisible to the naked eye and difficult to detect but are made up of harmful fumes, gases and fine dust particles.

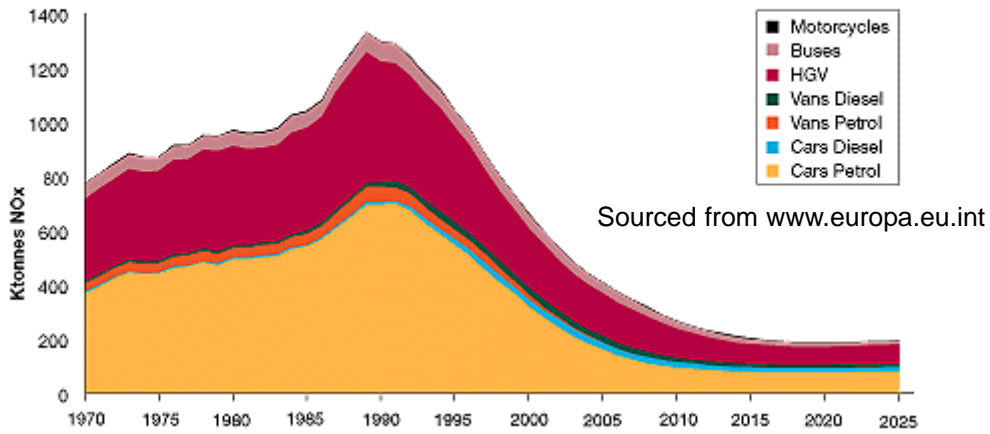
Policy Framework and Legislation

European Strategy

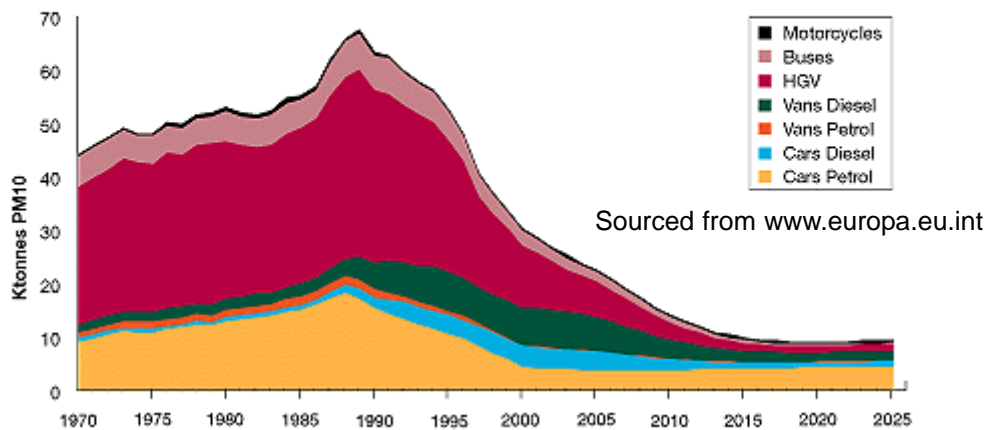
To address a growing air pollution problem and related health concerns internationally, the European Union set limits for pollution levels through its Air Quality Framework Directive (96/62/EC). These limits became legally binding in the UK through the Environment Act 1995 and related regulations, being incorporated into the Government's National Air Quality Strategy.

European Union policy is effectively reducing emissions from new vehicles although the impact on air quality is reduced while older vehicles remain in use. This policy was chiefly established to mitigate the impact of traffic growth across Europe. Through the "Auto Oil Programme", tougher emission standards have been set for new cars, light and heavy goods engines. From 2001, all new engines were required to be built to a Euro III standard. By 2006 they must meet a higher Euro IV standard. The positive effect of this policy can clearly be seen in the following two Graphs.

Total UK road transport emissions of NO_x: effect of progressive introduction of Euro II, Euro III and Euro IV standards



Total UK road transport emissions of PM₁₀: effect of progressive introduction of Euro II, Euro III and Euro IV standards



National Air Quality Strategy

The Environment Act 1995 required the Government to develop a National Air Quality Strategy. For the first time, a commitment was made to meet air quality objectives throughout the UK.

These health based objectives were established after assessing standards accepted by the European Union, the World Health Organisation and the UK Expert Panel on Air Quality Standards. Deadlines were set for each of these objectives to be achieved, the latest being the end of 2005. By 2010 the objectives are likely to be tightened significantly and further improvements are expected, building on anticipated successful action up to 2005.

The National Air Quality Strategy has three key aims:

1. To require all local authorities to review and assess their area for poor or declining air quality. Where identified, Councils must declare an Air Quality Management Area and develop a targeted Action Plan to ensure continuous improvement.
2. To reduce significant health risks.
3. To achieve sustainable development.

National air quality standards and objectives have been set for eight pollutants that have significant health risks.

National air quality standards and objectives have been set for eight pollutants that have significant health risks:

- Nitrogen dioxide
- Fine particulate matter (PM10)
- Sulphur dioxide
- Carbon monoxide
- Ozone
- Lead
- 1,3-butadiene
- Benzene

The current strategy details specifically how air quality is to be improved and to what level pollution must be reduced.

The Mayor of London's Strategy

The Greater London Authority Act 1999, placed a duty on London's Mayor to produce an Air Quality Strategy for London. The Mayor's Strategy was produced in September 2002 and received detailed comments from Tower Hamlets Council during its drafting stages.

The Mayor's Strategy recognises that poor air quality is harmful to health.

The Strategy recognises that poor air quality is harmful to health and affects the quality of life for all those who live and work in London. Improving air quality, the health of Londoners and the quality of the surrounding environment is vitally important for the sustainable growth of London and continued economic development.

Road traffic is identified as the major source of pollution in London. The strategy focuses on ways of reducing the levels of emissions from road traffic, particularly the main pollutants of concern - nitrogen dioxide (NO₂) and fine particulate matter (PM10).

The Mayor's Strategy concentrates on reducing emissions through five key areas:

1. Traffic reduction
2. Traffic management
3. Cleaner vehicles
4. Cleaner fuels
5. Promoting and increasing public awareness

These initiatives have been considered in detail within the Tower Hamlets Air Quality Action Plan and have been used to guide the Action Planning process. The Council believes that it is essential for London Borough Action Plans to complement the objectives within the Mayor's strategy to achieve successful outcomes.

1. Traffic Reduction

A holistic approach must be taken to achieve road traffic reduction in London. The Mayor's air quality, transport and planning strategies complement each other to encourage sustainable travel, reduce unnecessary car use, introduce congestion charging and reduce freight lorry movements. The Mayor requires a similar approach from London's local authorities.

2. Traffic Management

The Mayor is developing plans to reduce emissions through a range of traffic management techniques, possibly a reduction of speed limits, reducing congestion and allowing some HGV's to use bus routes at off-peak times. The strategy also offers support to Clear Zones and similar local initiatives.

3. Cleaner Vehicles

The Mayor recognises that both encouragement and enforcement initiatives are required to improve air quality. The purchase of cleaner vehicles and retrofitting of existing vehicles with cleaner technology is promoted. The Mayor will work with coach operators to use cleaner vehicles and to encourage waste collection authorities to specify that all refuse vehicles meet at least Euro II standards. HGV's, buses and coaches should have at least Euro II engines by 2005.

The Mayor is working with the London boroughs, the Association of London Government and Central Government on proposals for implementing a London-wide Low Emission Zone. As a result, higher emission standards may be set for HGV's, buses and coaches entering the Zone.

4. Cleaner Fuels

The Mayor promotes the development of a refuelling infrastructure for alternative fuelled vehicles and encourages the development of clean technology.

The Mayor encourages taxi drivers to use cleaner fuels and engines and for retrofitting existing taxis with oxidation catalysts. For the long term, the Mayor encourages the development and use of zero-emission vehicles.

5. Promoting and Increasing Public Awareness

The Mayor supports public awareness campaigns such as Don't Choke Britain, Car Free Day and Walk to School Week.

Local Authority Measures

The Mayor expects local authorities to reduce emissions of their own fleet of vehicles. The measures expected include ensuring that vehicle fleets and those of contractors emit little pollution, ensuring that vehicles are used sensibly, are well maintained and specific routes are worked out to be as fuel efficient as possible.

By working with the Energy Savings Trust CleanUp and Powershift programmes, assessment must be made of cost-effective options for reducing emissions from Council vehicles.



Local authorities are expected to work with the Greater London Authority and the Association of London Government on building partnerships with coach operators, hauliers and delivery companies. Following the recent publication of a feasibility study into a London-wide Low Emission Zone, local authorities will be asked to work towards its development and implementation.

Local action is expected to add value to the Mayor's and Government's strategies and build on their success. The success of London-wide schemes, particularly improving public transport and the Underground, facilitating CrossRail, reducing congestion and implementing a Low Emission Zone is critical for securing air quality improvement in Tower Hamlets. Local targeted action, having regard to areas of poorest air quality, is expected to prove the most cost-effective and is the focus of the Tower Hamlets Air Quality Action Plan.

Working closely with the Mayor of London, the Council aims to

contribute significantly to improving local air quality. In developing this Action Plan, social, economic and environmental costs and benefits must be balanced in order to improve air quality and develop a truly sustainable transport network.

Tower Hamlets Air Quality Review and Assessment

The initial statutory review and assessment of local air quality was carried out in three stages, the purpose being to predict whether the national air quality objectives would be met by 2005. The assessment predicted that objectives for two of the eight pollutants were unlikely to be met by the given deadlines.

The Environment Act imposes a statutory duty on Councils that have predicted a likely exceedence of the objectives, to declare an Air Quality Management Area (AQMA). The whole borough of Tower Hamlets was declared an AQMA in December 2001, following local consultation.

The pollutants predicted to exceed the national objectives in Tower Hamlets are:

Nitrogen dioxide
Fine particulate matter (PM10)

The Stage III Review and Assessment predicted that sulphur dioxide would also exceed the Government objectives. This was primarily a result of the significant levels being emitted by power stations along the River Thames to the east of London.

However, the Environment Agency has assured the Council that sulphur dioxide levels in Tower Hamlets will meet national objectives by 2005, due to tighter regulatory controls on emissions from power stations in the Thames region. This will be achieved through additional filtration, monitoring and controls imposed by the system of Integrated Pollution Prevention and Control for industrial premises under the Environmental Protection Act 1990.

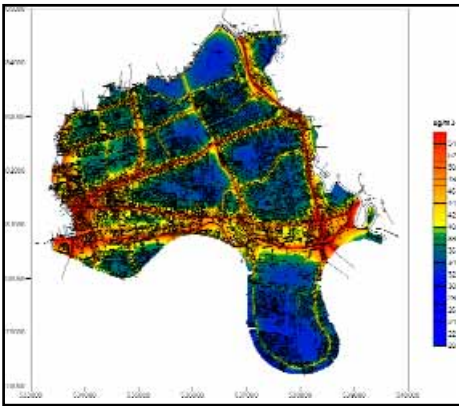
Where an AQMA is declared, the Act requires an Air Quality Action Plan to be produced. This must detail the actions that the Council plans to take to improve air quality and work towards meeting the national objectives.

This Council, therefore, has a statutory duty to produce and implement an Action Plan that focuses on reducing local levels of NO₂ and PM₁₀. The national objectives for each of these pollutants are shown in the table on the next page.

The pollutants predicted to exceed national objectives in Tower Hamlets are nitrogen dioxide and fine particulate matter (PM10).

Pollutant	Objective Date	Air Quality Objective Levels
		The Air Quality(England) Regulations 2000
Nitrogen Dioxide	Dec-05	40 ug/m3 or less - annual mean 200 ug/m3 or less - hourly mean - not exceeded more than 18 times a year
Particulate (PM10)	Dec-04	40 ug/m3 or less - annual mean 50 ug/m3 or less - 24 hour mean - not to be exceeded by more than 35 times a year

Stage IV Review and Assessment

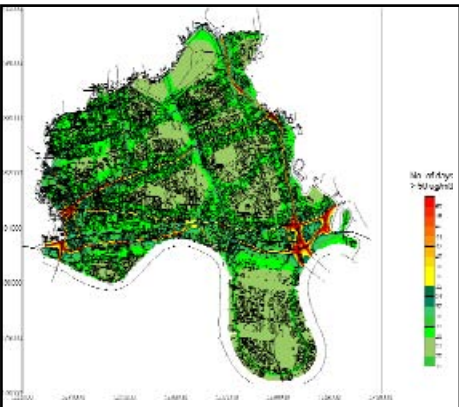


Predicted annual mean nitrogen dioxide for 2005

As a result of the declaration of the AQMA, the Council is also statutorily required to carry out a further air quality assessment, known as Stage IV.

A Stage IV Review and Assessment was completed in January 2003 to re-evaluate the technical and monitoring data that was previously used and on which the decision to declare an AQMA was based. A copy of the assessment is available on request.

The results from this more detailed analysis confirm the previous findings that national air quality objectives for NO₂ and PM₁₀ are unlikely to be achieved by their respective deadlines. This confirms the need to draw up an Air Quality Action Plan which identifies measures that can reduce pollution levels within the borough.



Predicted daily mean PM₁₀ objective for 2004

The Stage IV Review also examines the degree of improvement likely to be required and the degree of pollution coming from different local sources. The predicted levels for the relevant deadline years were mapped and the resultant images clearly show the correlation between high pollution levels and road traffic. The source apportionment analysis estimated that up to 78% of the oxides of nitrogen (an indicator of NO₂ levels) come from road transport. This is in addition to the amounts classed as background levels, of which, emissions from road transport outside the borough form a part.

For PM₁₀, the relative contribution from road transport is between 2 and 35% with the majority coming from background sources. However, these background sources include particles that are formed in the atmosphere through chemical reactions and natural sources such as pollen and wind-blown dust. These are, therefore, much harder to control and impossible to manage at a local level. Road transport, therefore, contributes a significant amount of the controllable elements of PM₁₀.

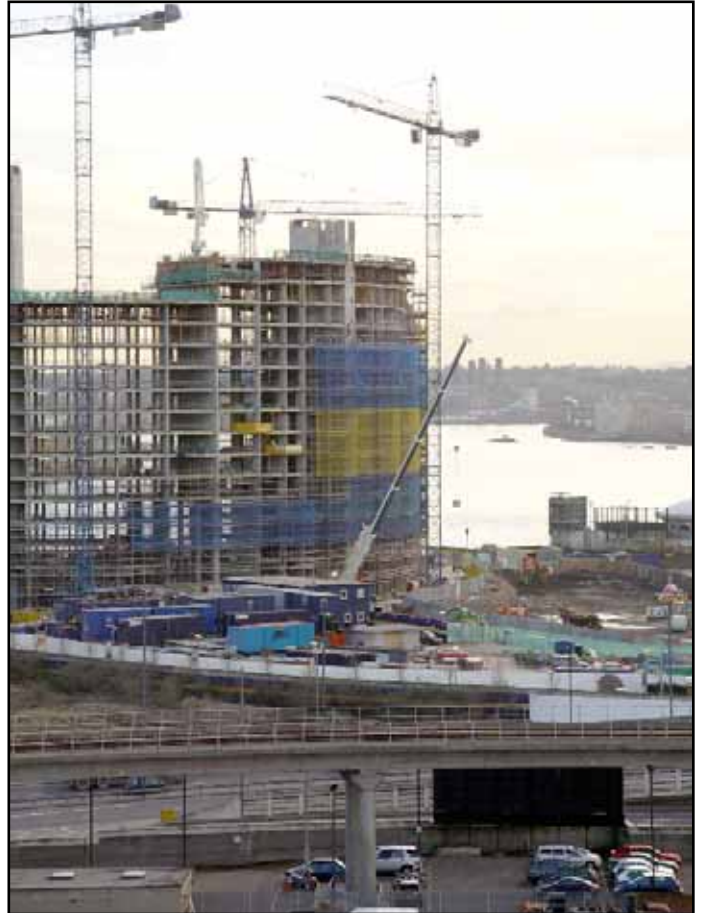
The Stage IV Review considered the effects of several scenar-

ios on levels of PM10 and NO2 in Tower Hamlets. The predicted annual mean levels of NO2 in 2005 without additional action being taken are as much as $50\mu\text{g}/\text{m}^3$. We, therefore, aim to reduce the levels by $10\mu\text{g}/\text{m}^3$ in order to meet the national objectives. For PM10, it is predicted that, in the worst affected areas, there will be about 15 more days when the standard is exceeded than the objective prescribes. In these areas, the actions will need to reduce the levels of PM10 to ensure that no more than 35 days are above the standard. However, the modelled results demonstrate that reductions in cars of between 5 and 10% coupled with a 5% decrease in the numbers of LGV/HGVs are still unlikely to deliver the improvements necessary for the Government objectives to be achieved.

Therefore, the amount of traffic flowing to and through busy London boroughs is likely to make achieving the national objectives by 2005 unlikely. Long-term major infrastructure changes are likely to be necessary to achieve a modal shift of transport away from road vehicles, the primary polluters.

In addition, Tower Hamlets has attracted a substantial amount of investment and redevelopment work to the area in recent decades. Consequently, much of the major construction work taking place in London is within the borough of Tower Hamlets. More data is required on the cumulative impacts on PM10 levels of many construction sites operating simultaneously within a relatively small area. Until further monitoring can provide data that can be used to make more accurate predictions, this authority has decided to maintain the AQMA for the whole borough for both PM10 and NO2.

Consequently, a whole package of measures need to be considered to try and attain these objectives.



Characteristics of Air Pollutants

Fine Particulate Matter (PM10)

PM10 consists of tiny particles that are carried in the air and are less than 10 microns in diameter. These are invisible to the eye and include fumes from cars, boilers and a small fraction of construction dust.

These fine particles remain as fumes in the air and behave like a gas. They are suspended in the atmosphere, never really settling out and can be transported many miles from the source. This means that reducing levels locally relies not only on local action but also on implementing a national and international strategy.

PM10 is divided into three categories based on their size and nature:

Primary particles are the smallest in size. They are carbon based and are created by burning fuel, for instance in a vehicle engine. These particles are approximately 0.3 microns in diameter.

Secondary particles form as a result of a chemical reaction that takes place in the atmosphere. These particles include ammonium nitrate and ammonium sulphate. The size of these particles is typically between 0.5 and 1 microns in diameter.

The third particulate classification is coarse particles. These are between 2.5 and 10 microns in diameter. These consist of matter such as pollen and dust resulting from construction activities, for example, stone cutting and crushing.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is a gas produced when nitrogen and oxygen are combined at high temperatures, usually by burning fuel in vehicle engines, gas-fired boilers or cookers. Initially, nitrogen oxide is produced but this reacts instantly with oxygen to form nitrogen dioxide. The main source of this pollutant in London is road traffic. Nitrogen dioxide levels measured along busy main roads are usually much higher than elsewhere. This can clearly be seen in the maps produced for this authority's Stage IV Assessment. Here, the main roads in the borough are easily identifiable by the red areas indicating high levels of nitrogen dioxide.

Road traffic accounts for over 50% of all of the nitrogen oxides that are emitted locally.

Sources of Air Pollution in Tower Hamlets

The source apportionment carried out during the Stage IV Review and Assessment showed that road traffic emissions account for a high proportion of all air pollution generated.

The main "A" roads funnel traffic through the borough running north to south via the A12 towards the M11 and east to west via the A11 and A13.

Generally, road traffic accounts for over 50% of all oxides of nitrogen that are emitted locally. A further 15% is generated from residential and commercial gas-fired boilers and an additional 8% by regulated industrial processes.

Levels of PM10 in Tower Hamlets arise from a variety of sources, many of them being outside of the borough. For example, London suffers from a secondary source of PM10 that drifts over from Europe. However, individual local authorities are unable to address this as it is an international issue. Of the PM10 generated within the borough, at least 75% comes from road traffic. Local industry and construction also contribute to the load.

At least 75% of the fine particulate matter (PM10) emissions in Tower Hamlets are from road traffic.

Health Implications

The levels of air pollution recorded in Tower Hamlets may affect residents who already have health problems affecting their lungs or heart, leading to an increase in hospital admissions and premature death.

Healthy individuals are unlikely to suffer serious short-term health effects. Poor air quality is most likely to have the greatest effect on people living in deprived areas of the borough as they tend to be exposed to the highest levels of pollution.

Research into the adverse health effects caused by poor air quality and its links to medical conditions including asthma are continuing with national funding.

Health Implications of Fine Particulate Matter (PM10)

Fine particles are small enough to be breathed deep into the lungs. They can cause inflammation that is more pronounced in susceptible individuals and cause deterioration in the health of those who already have a lung or heart condition. Acute changes in levels of PM10 have been shown to cause premature deaths, mainly from heart and lung complaints. They also result in additional and early emergency hospital admissions (London Health Commission).

Fine particles are small enough to be breathed deep into the lungs.

There is ongoing research, which indicates that long-term exposure to particulate pollution may increase the risk of developing lung cancer. A recently published study in the United States has shown that people exposed to particulates of 2.5 microns and less, the fraction originating from road traffic, power stations and industrial sources, will have a significantly increased risk of con-

tracting lung cancer (Journal of the American Medical Association, March 2002).

Nitrogen dioxide irritates the eyes and inflames the lungs' airways.

Health Implications of Nitrogen Dioxide

Nitrogen dioxide irritates the eyes and inflames the lungs' airways, with the elderly and those with poor health tending to being the most affected. High levels are probably causally related to heart conditions, deaths and emergencies for heart disease and asthma at all ages, increasing demand for treatment and medication (London Health Commission).

Air Quality Impact on Biodiversity

The draft Local Biodiversity Action Plan for Tower Hamlets was published in March 2003 by the Tower Habitats Partnership (a community partnership of volunteers, public bodies, environmental organisations and the London Borough of Tower Hamlets). It is currently being reviewed for adoption.



Its aim is to encourage the long-term survival and overall enhancement of wildlife within the Borough, to identify local areas of wildlife importance and to ensure that these sites are protected and improved. By improving the natural environment, it provides opportunities for people to access, experience, enjoy and study a better environment: a crucial component of the Council's overall Strategic Plan and the Mayor's Biodiversity Strategy, published July 2002.

The susceptibility of plants to air quality varies between species, but poor air quality can affect plants directly. For example, nitrogen and sulphur deposition can damage the leaves, so reducing their ability to respire and photosynthesise. This in turn restricts their ability to grow and flourish. Furthermore, such pollutants can also cause soil enrichment which can affect their growth patterns. Tower Hamlets Council is

supporting a Mayor-led study into the impact of nitrogen dioxide on trees by providing local air quality information on a Geographical Information System for trend analysis.

Plants can influence air quality, through pollen spores which contribute to particulate pollution. However, some research has shown that trees and other plants can have a beneficial effect on air quality through their ability to filter out particles and sequester

certain pollutants, eg, carbon dioxide. Therefore, parks and areas of nature conservation importance become effective buffers in an urban environment and provide areas where people can experience cleaner air. Improving local air quality is essential to providing an environment where wildlife is sustained.

3 Purpose of the Action Plan

The key aim is to improve the air quality for everyone living and working in the borough.

The key aim of this Action Plan is to improve the air quality for everyone living and working in the borough. The Action Plan is targeted at reducing the levels of two pollutants; nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀), in order to meet the national objectives by the relevant deadlines. The Plan details the cost-effectiveness of the options for improving local air quality in order to prioritise them for implementation. The following are the key areas for action:

- Air Quality Monitoring
- Roadside Emission Testing
- Planning Policy and Control
- Transport Strategy
- Physical Traffic Management - Speed and Flow
- Routing Traffic and Road Hierarchy
- Street Signage, Street Environment and Home Zones
- Parking Management and Control
- Encouraging Local Cycling and Walking
- Partnerships and Travel Plans (Workplace and Schools)
- Road Transport Promotion, Education & Awareness Raising
- Low Emission Zones
- Road User Charging
- Urban Traffic Control Systems (UTCS)
- Reallocated Road Space
- Public Transport Initiatives - Bus
- Public Transport Initiatives - Passenger Rail and Underground
- Maritime, Ports and Waterways
- Air Transport Infrastructure
- Fleet Management and Clean Fuels
- Domestic and Commercial Energy and Heating
- Industrial Sources
- Construction
- Smoke Control and Nuisance

Monitoring Air Quality in Tower Hamlets

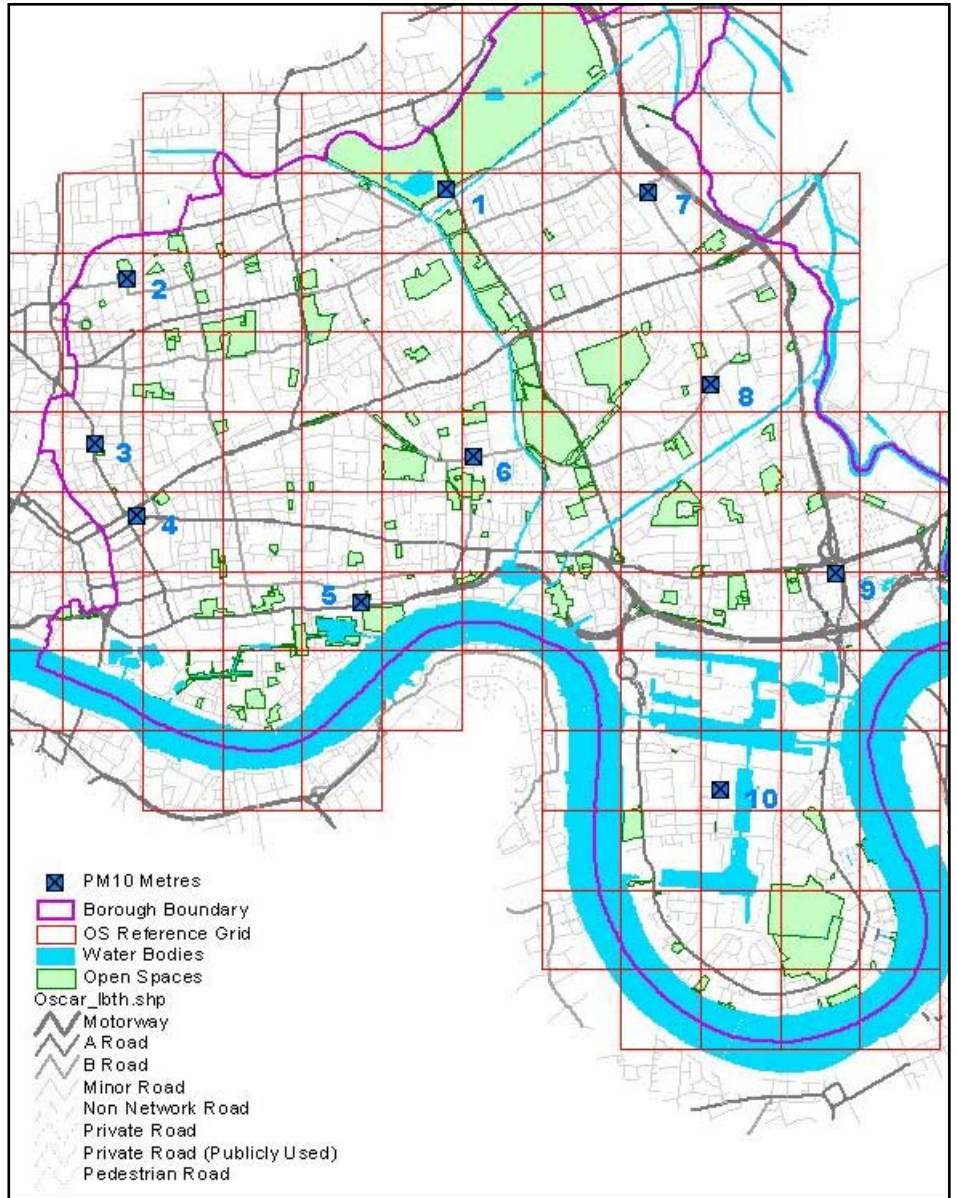
The effectiveness of the Mayor of London's Air Quality Strategy and Tower Hamlets's Action Plan will be judged on any measurable improvements in air quality that are delivered. The Council has developed a network of air pollution monitors targeted at the specific needs of the borough.

The results enable the Council to identify local air pollution trends and areas of high air pollution. Using air quality information within a GIS format, the Council is planning to directly influence Transport, Planning, Parking and Corporate Spatial Strategies.

It is essential that the information gathered for trend analysis and interpretation continues to be quality assured as the conclusions drawn from the results form the backbone of The Action Plan.

Tower Hamlets Council will continue to develop the local air quality monitoring network and complement the monitoring carried out by other London boroughs. This will ensure that the required improvements in London's air quality can be monitored efficiently and effectively.

Networking with the other London borough's air quality professionals and policy makers is essential. As air pollution data and maps of high and low pollution areas are produced they will be distributed locally through an established network, published on the Council's web page and in the local paper, East End Life. The responses to the consultation exercise demonstrated a local awareness and interest in air pollution issues. It has also resulted in this

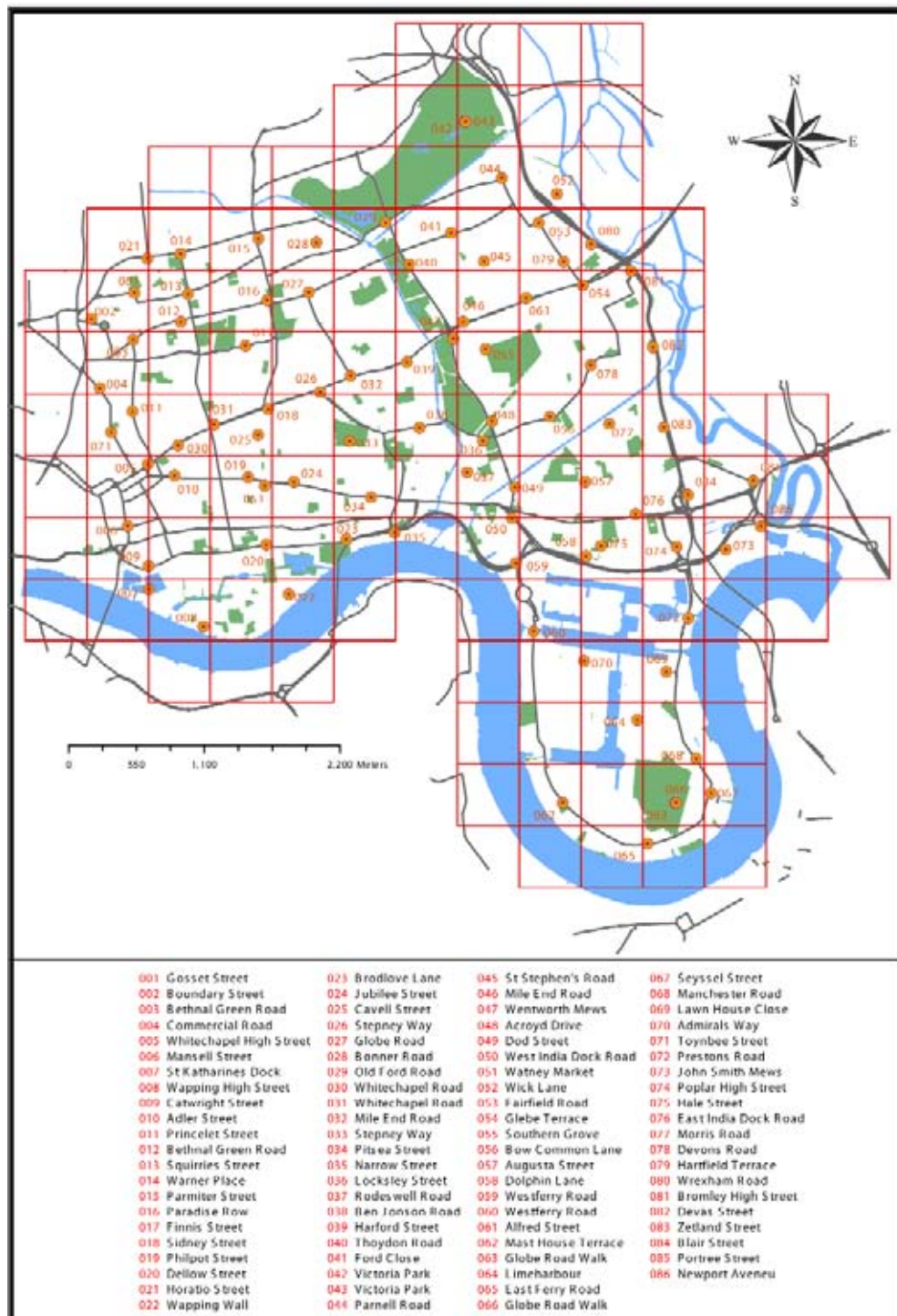


Council developing further contacts throughout the community, thereby increasing the demand for air quality information.

Policy makers involved in Transport Planning, Development Control, Parking Control, Energy Efficiency, Environmental Protection, local businesses and the community will be encouraged to consider local air quality in decision making and make every effort to minimise their own environmental impact, thus setting an example to others.

It is essential that solutions are cost-effective, practical, targeted and realistic. Providing decision-makers with reliable, accessible air quality information is key to ensuring that air quality is placed high on the political agenda and easily integrated into service planning across the Council.

Tower Hamlets Council continuously monitors local air quality at three permanent monitoring stations, which are detailed below. These stations are linked to a central information centre that



Map showing the distribution of nitrogen dioxide sampling sites across the Borough.

allows real time monitoring information to be viewed on the internet at: www.erg.kcl.ac.uk/london/asp/home.asp

Location	Date Installed	Type of site	Pollutants measured
Poplar	Feb-94	Background	PM10, NO ₂ , O ₃ ,
Queen Mary's College, Mile End Rd	Mar-94	Roadside	CO, NO ₂ & Hydrocarbons
Bethnal Green Library	Oct-99	Background	PM10, NO ₂ & SO ₂

Environmental Health, Environmental Protection is currently carrying out a nitrogen dioxide survey across the borough that uses 86 diffusion tubes. These are fixed to posts at locations identified as hotspots for pollution as well as background locations such as parks. This allows comparisons between the two types of sites to be made.

The tubes are a passive form of monitoring and are collected and analysed monthly to provide average levels of pollution monitored. They are very useful in identifying air pollution trends, areas of high pollution and for verifying air quality predictions. Information from selected sites is also fed into a London wide nitrogen dioxide monitoring programme.

In September 2002, ten PM10 meters were fixed to lampposts around the borough. These gather continuous information, collected using a mobile phone link. The information is used to identify trends, areas of high pollution and to build up a more complete picture of air quality across the borough.

Environmental Health and Traffic and Transportation teams have been working together to expand this network and gather further air quality data that will inform their work. Additional PM10 meters were purchased in summer 2003 for use in two proposed projects.

The first will use the PM10 meters to collect data on roads where traffic-calming measures are planned both before and after the works take place. This will allow comparisons to be made that help to identify the impacts of the measures on air quality. The second is a "Gateway Project" that will monitor particulate pollution on



Air Quality Monitoring Stations

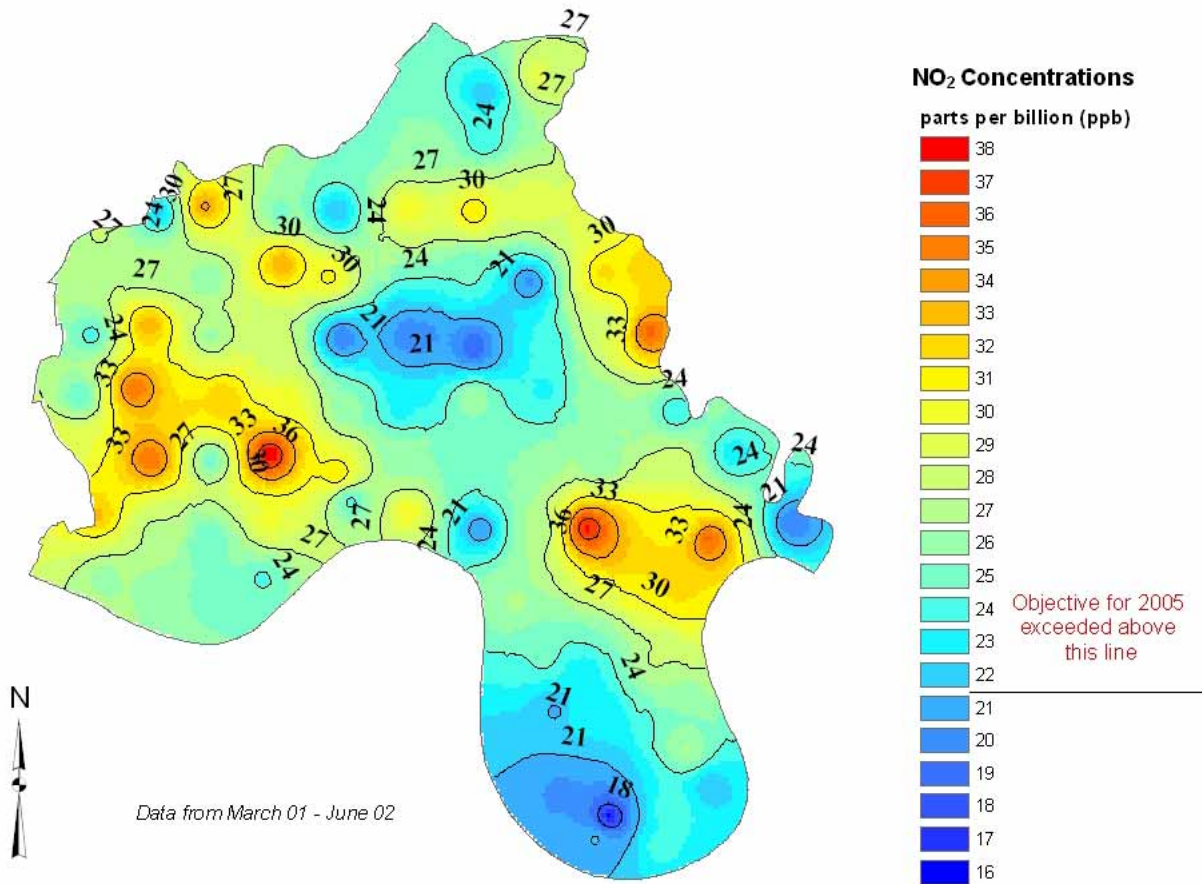


Nitrogen Dioxide Diffusion Tube



Fine particles (PM10) monitor

Borough Wide NO₂ Survey



Map showing average nitrogen dioxide levels for 2002

the major roads in and out of the borough at the borough's boundary. This will help to apportion the amounts of pollution arising from cars travelling into and through the borough as opposed to that from more local journeys.

Through this monitoring, the Council will be able to demonstrate the effectiveness of local and London air quality actions from the present day to 2005 and beyond.

Key Actions

1. Provide and update air quality information on GIS and distribute to strategic policy makers within the borough, London and Government.
2. Identify pollution trends and areas of high air pollution, prioritise and bring to the attention of targeted individuals and organisations.
3. Provide accurate information to the Mayor and GLA for research purposes.
4. Provide on-line information to the website for public information. Develop user friendly interrogation systems to ensure the public can find out local air quality levels by entering their postcode.
5. Continue to manage the Council's air pollution monitoring network and bid for resources from Government annually for support, maintenance and development.

Air Quality Impact: High

Air quality monitoring and trend analysis using GIS is a key component of Tower Hamlets's Action Plan. Information that is gathered and interpreted will be widely disseminated, to inform debate and target areas for improvement across the Council and community. The information will influence the Community Planning process, key spatial policies and ensure that improving air quality is fully integrated into the planning process.

Roadside Emissions Testing

The Road Traffic (Vehicle Emissions)(Fixed Penalty)(England) Regulations 2002 allows local authorities to test emissions from individual vehicles travelling through an Air Quality Management Area within their borough.



The test requires emissions to meet the MOT standard, and if a vehicle fails, a fine of £60 will be imposed. This increases significantly if it is not paid within a specified time limit and may be recovered as a civil debt.

The Mayor's Air Quality Strategy endorses the use of emission testing as a way of policing and encouraging responsible car ownership.

The National Vehicle Inspectorate have regularly stopped and tested vehicles in Tower Hamlets and have been supported by the Council especially during Don't Choke Britain campaigns. However, tests are random and not always noti-

fied to all relevant Council Departments. Communication links therefore require improvement to maximise outcomes and target areas of highest pollution.

If a vehicle is tested and fails to meet the MOT standard, a fine of £60 will be imposed.

Pilot studies have shown this to be an expensive tool that is not self-financing and so requires significant additional resources. However, if authorities work together, economies of scale can be achieved, thus reducing costs. The Association of London Government (ALG), therefore, bid for resources from Central Government in order to carry out the scheme on behalf of 28 London Boroughs. In December 2002 the Department of Transport granted the full amount requested to enable the ALG to implement a London-wide emissions testing scheme.

Tower Hamlets is fully supporting this initiative and testing on the borough's roads is already being carried out. Approximately 10% of vehicles tested were found to be above the legal limit for emissions and even some newer vehicles failed the test. The testing has been complemented by the "Smoking Kills" awareness campaign launched by the ALG. This aims to encourage motorists to make sure that their vehicles are checked regularly and maintained to the standard necessary to avoid causing excessive pollution.

Stopping and testing traffic on major traffic routes can lead to congestion and increase local air pollution. A day of testing on the boroughs' main roads, therefore, needs effective planning and co-ordination with Transport for London (TfL) who manage them. Police assistance is also crucial as local authorities do not



have the power to stop road traffic. The police presence is resource intensive and the police are concerned about the level of support they can provide in a busy borough like Tower Hamlets. Close working partnerships and adequate resources are essential to the success of this project and will be actively sought by the Council.

In addition to testing, smoky vehicle emissions can also be addressed if they are reported to the Vehicle and Operator Services Agency. A hotline has been set up for members of the public to report instances: 0870 60 60 440. The following information should be supplied where possible:

- vehicle registration number
- type of vehicle
- date, time and place where vehicle was seen
- any company details on the vehicle

The caller's name and address is also requested although this information will remain confidential.

Key Actions

- 6.** The Council will actively support and continue to take part in the London-wide Vehicle Emissions Testing Scheme.
- 7.** The Council will assist the ALG in implementing the scheme locally.
- 8.** The Council will make its air quality information available on GIS. This will detail hotspots for NO₂ and PM₁₀ allowing action to be targeted and thereby maximising effectiveness.
- 9.** The Council undertakes to publicise the scheme in its local paper, East End Life, delivered to every resident in the borough. A co-ordinated campaign will be undertaken to complement the Mayor's London-wide publicity for testing and routine maintenance of vehicles.
- 10.** Publicise and promote awareness of the Smoky Vehicle Hotline to allow members of the public to report badly polluting vehicles.

Air Quality Impact: Medium

It is unlikely that this initiative alone will achieve a major improvement in air quality as only a minority of vehicles will ever be tested. The aim is to encourage regular servicing and tuning. The visibility of Roadside Emissions Testing and the publication of results may help to achieve this by educating and raising awareness among the public. If a significant proportion of the older vehicles, which are the worst polluters in the borough, were serviced regularly, there could be a significant improvement in air quality.

Planning Policy and Control

The Council's Unitary Development Plan (UDP) provides the management framework for developing land use in the borough to 2010. It details the Council's development policies and prioritises areas of land for specific use. National Planning Policy Guidance Notes (PPGs), guide the development of the UDP and local planning policies. The PPGs that specifically refer to improving air quality, include:

PPG12 - Sustainable Development

PPG13 - Transport

PPG23 - Pollution Control

The PPG23 Planning and Pollution Control Guidance note produced in 1994 pre-dated the Environment Act 1995 and has been updated. The current Air Quality Management Area guidance note raises the profile of air quality in the planning process and suggests that it may be a material consideration, particularly when considering development proposals within these areas. It also acknowledges the impact of new developments on climate change.

However, there are still many uncertainties, such as when and how to carry out air quality assessments and it is difficult to judge when a development must be refused on air quality grounds.

The Planning Policy Guidance notes have been used by the Council to shape the current UDP, ensuring the UDP and Interim Local Implementation Plan complement each other and that



land use priorities and transport priorities are intrinsically linked.

The UDP aims to:

1. Focus major generators of travel demand in city, town and district centres near to major public transport interchanges.
2. Locate local and day to day facilities in local centres so that they are accessible by walking and cycling.
3. Develop housing within urban areas, with increased density at locations that are highly accessible by public transport, walking and cycling.
4. Implement parking policies to promote sustainable transport choices and reduce reliance on the car for work and other journeys.
5. Give priority to people over traffic in town centres and consider giving more road space to pedestrians, cyclists and public transport in these locations.
6. Ensure that the needs of the disabled are taken into account in the implementation of planning policies, traffic management schemes and in the design of individual developments.
7. Protect critical sites and widen transport choices for passenger and freight movements.

The Council has developed the UDP in consultation with the local community, producing a number of key strategic planning policies that have a direct impact on improving air quality. These are summarised in the table on Page 29 and include:

- Traffic management
- Improvement of the physical environment
- Conservation of the natural beauty and amenity of land
- Biodiversity



UDP Ref.	Strategic Planning Policy	Impact on local Air Quality
ST7	To promote environmentally acceptable development by encouraging energy efficiency in the design of buildings and the use of materials	To reduce emissions of nitrogen dioxide from domestic and commercial gas fired boilers
ST24	To improve the quality of the residential environment	Improving local air quality of the residential environment is a strategic planning policy
ST25	To ensure that residential developments are adequately serviced by public transport provision, social and physical infrastructure	To reduce the dependence on private car use, so reducing journeys and polluting emissions
ST27	To support and improve public transport, ensuring accessibility and safety, for all	To encourage people to leave their cars at home
ST28	To restrain the use of private cars in order to achieve a more balanced allocation of road space between users	To reduce emissions and encourage alternatives to using private cars
ST29	To improve the environment by restricting and calming traffic in residential areas and high streets	To reduce road traffic in residential and high streets, encouraging walking and cycling
ST30	To improve safety and convenience of movement for all road users, especially pedestrians and cyclists	To ensure roads become increasingly user friendly for pedestrians and cyclists
ST31	To oppose any new roads or road improvements that will lead to a significant increase in traffic commuting through the Borough	To prevent the level of through traffic, the most significant source of air pollution in Tower Hamlets
ST32	To ensure that development is sensitively located so that the transport generated can be efficiently, effectively and safely accommodated within the existing and proposed transport system. There must be minimum detriment to amenity and the environment	To smooth traffic flow, reduce congestion and polluting emissions towards achieving a sustainable transport system
ST33	To reduce the impact of heavy lorry traffic by promoting greater use of rail and water for the movement of freight	To smooth traffic flow, reduce congestion and polluting emissions towards achieving a sustainable transport system
ST35	To ensure that a reasonable range of local shops is retained within a short walking distance of all residents	To reduce car dependence, encouraging walking to local amenities



The Council's UDP complements the local transport and parking plan and includes a number of specific transport and parking policies such as improving bus services within the borough:

- T2.** Improvements in the reliability and efficiency of bus services will be supported in the form of traffic management measures adopted on bus routes.
- T3.** Extension of bus services into residential, shopping, and employment areas, which are poorly served, will be sought.
- T5.** Improved interchange facilities will be sought in liaison with public transport operators and, where appropriate, with private developers.

The Council is committed to implementing these planning policies within the UDP to continuously improve local air quality. The Action Plan aims to raise the profile of air quality related policies that have been developed throughout the UDP and develop Supplementary Planning Guidance (SPG) for new developments.

The SPG will include standard planning conditions drawn up between Environmental Health Officers and Planning Officers, ensuring consistency of approach. Guidance will also be provided when air quality assessments are required for major developments or for locating developments away from public transport interchanges.

The anticipated planning conditions and informatives might require:

1. the monitoring and control of emission levels
2. mitigation to be approved before the development commences
3. restricting the hours of working
4. restricting types of vehicles and car parking
5. implementation of travel plans
6. provision of public transport facilities
7. use of clean energy and energy efficient technology.

As experience is gained, Town and Country Planning Act section 106 agreements may be used, for example, to require monitoring of air quality, improvements to public transport links and local infrastructure, particularly around the major local regeneration schemes.

Tower Hamlets is currently undergoing major regeneration and assessing numerous large-scale schemes that require formal Environmental Impact Assessment (EIA). Air quality assessments are required as part of an EIA which must be approved prior to development. Closer working relationships are being forged between strategic Planning Officers and Environmental Health Officers as a more integrated approach is being realised. An Environmental Impact Assessment Officer post is to be created within the Environmental Health, Environmental Protection Division in 2003. The purpose of the post is to provide a holistic review and assessment role for Planning Officers.

Improving the working links between Planning and Air Quality objectives is the key to the success of the implementation and use of the UDP as a tool for delivering measurable improvements in local air quality.

The Air Quality Action Plan aims to ensure the successful implementation of the Council's UDP policies that impact on air quality. Areas where air quality is poorest will be targeted for specific attention and a reduction in road traffic encouraged through development control and by working towards a more sustainable transport system.

One option available to local authorities in areas where air quality is poor is to compulsory purchase houses or land thus removing occupiers from any risks to health. By purchasing the house or land the Council absolves its statutory duty to declare an Air Quality Management Area.



However this option is restricted to specific very high risk situations. Tower Hamlets Council does not currently have any plans to use this tool to deal with issues of local air quality.

Key Actions

11. Supplementary Planning Guidance will be produced. The SPG will outline when an air quality assessment will be required with a Planning Application. It will also provide technical guidance on how to carry out an air quality assessment, including guidance on how to assess the impacts and appropriate mitigation.
12. Standard planning conditions will be developed to control air pollution emissions before and after construction. These will particularly focus on developments that do not require pollution control permits under any other legislation, that generate increased traffic flows or are not located in close proximity to public transport.
13. A review will be carried out to research and develop the successful use of section 106 of the Town and Country Planning Act 1990 for setting 'planning obligations' to reduce local air pollution impact.
14. Current policies that refer to air quality in the UDP will be formally reviewed. The UDP will in future take full account of the Air Quality Action Plan in prioritising land use and review the use of planning control mechanisms available to the Council to achieve sustainable development.
15. Use GIS air quality information to prioritise areas for planning control.

Air Quality Impact: High

The use of Planning Controls to shape the regeneration of Tower Hamlets, requiring full assessment of location, suitability, infrastructure development, sustainable development, discouraging car use and promoting use of energy efficient technology can have a high impact on air quality locally. Developing close links between the Environmental Health, Environmental Protection Division, Planning Services and the use of air quality information on GIS, will enhance the decision-making process and improvement of local air quality. This is a long term solution requiring positive action now.

Transport Strategy

The Council's Transport Planning Team has developed an Interim Local Implementation Plan in line with the Mayor of London's Transport Strategy, the Government's White Paper; "A New Deal for Transport, Better for Everyone", and the Road Traffic Reduction Act 1997.

Reduce the adverse effects of traffic on the environment and air quality

This Transport Strategy aims to reduce dependence on the private car and to enable as many journeys as possible to be made using public transport, cycling and/or walking.

The Transport Strategy vision is:

"To seek to develop an effective and sustainable integrated transport system to serve all users. It will seek to reduce the dependence on motorised traffic and its adverse effects on the environment."

Improving the environment, in particular air quality is further supported in the strategic aim that seeks to:

"Reduce the adverse effects of traffic on the environment and air quality and congestion, by enhancing the scope of sustainable alternative transport modes, particularly walking and cycling."

The Council has developed its Action Plan to deliver many local improvements and to raise the profile of the air quality debate. However, these alone will not deliver a measurable difference in air quality.

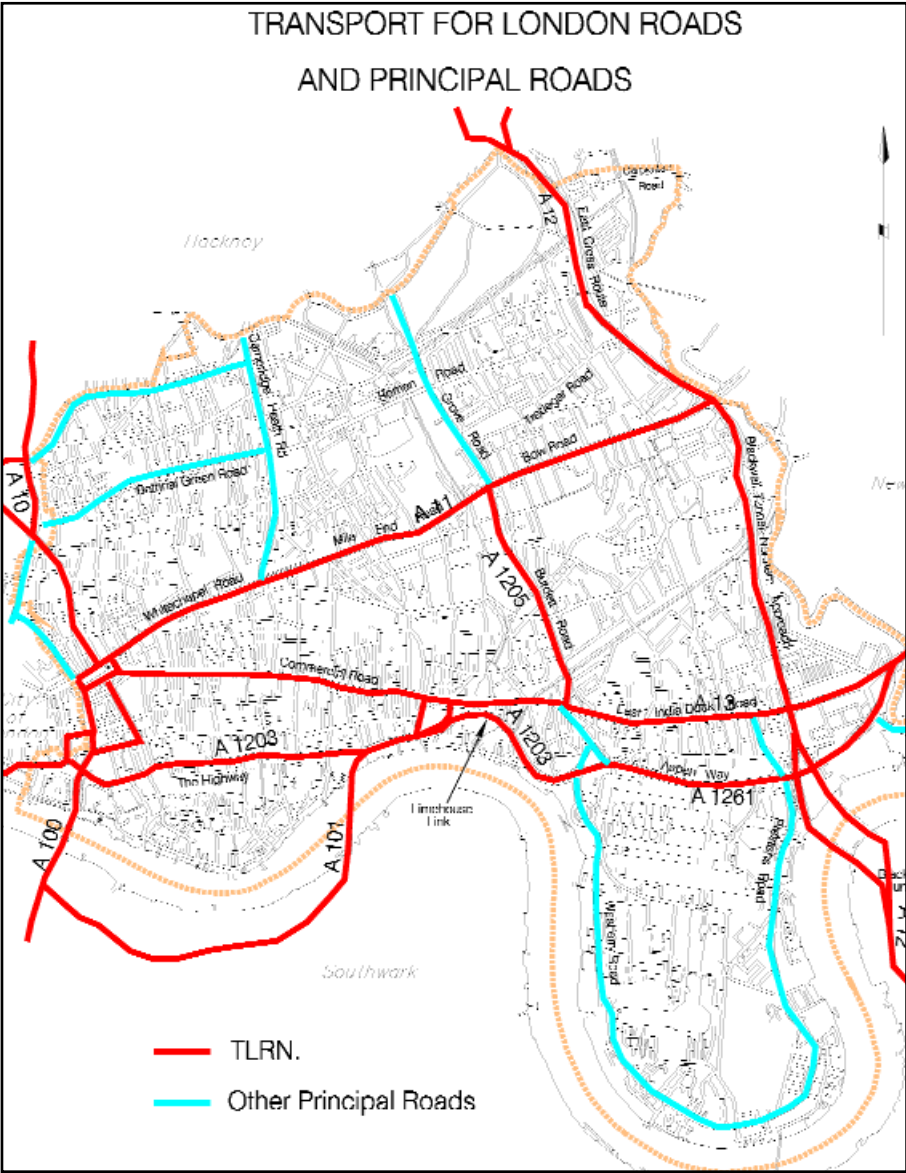


The A11, A12 and A13 are not directly controlled by the Council, but by the Government through Transport for London.

For there to be a reduction in air pollution from road transport a reduction in vehicle movements must take place. It is vital that there are alternative, attractive, safe and convenient modes of transport available for every day use.

The Transport for London Road Network (TLRN) includes the A11, A13 and A12, which are the most significant through traffic routes, carrying the most traffic and having the greatest impact on local air quality. However, this is not directly controlled by the Council, but by the Government, through Transport for London (TfL). The control of air pollution can only be achieved by facilitating partnerships with Transport for London and implementing our Transport and Planning strategies.

The Council is heavily reliant on Transport for London funding making significant improvements to the local transport network and reducing the demand for road traffic. The Council will continue to monitor the key performance indicator, *improving air quality*, as Transport for London implement their Environmental Action Plan. This aims to improve public transport management and control of traffic on their roads.



It is critical for Tower Hamlets that Transport for London succeed in their efforts to reduce traffic pollution. If they do not, then it is unlikely that the national air quality objectives will be achieved in Tower Hamlets within the specified time frame. The success of the Transport for London Environmental Action Plan is pivotal to securing the objective of improving local air quality.

The success of the Transport for London Environmental Action Plan is pivotal to securing the objective of improving local air quality.

The Air Quality Strategies developed by Central Government, the Mayor of London and Transport for London are wide reaching, attract significant national resources and are able to address the issues on a London-wide basis as well as in the regions surrounding London.

However, each local authority has an important role to play in improving local air quality. The Council has identified that the close working relationship that has already been established between Tower Hamlets Transport Planners and Transport for London must be developed further.

In addition, a priority must be to include specialist air quality officers from the Environmental Health, Environmental Protection Division to assist in targeting action effectively.

Another key objective for the Council is to assist in changing commuter preference away from a reliance on cars and actively encouraging the use of public and alternative modes of transport including walking and cycling. Many short journeys in Tower Hamlets, such as for the school run or trips to the local shops, are made by car. Short motor vehicle journeys cause significantly more pollution in relative terms and are often unnecessary as the Borough benefits from a substantial public transport network.

It is important to remember that many Transport Planning initiatives aim to improve road safety and reduce road traffic accidents. However, some traffic-calming measures may actually cause an increase in pollution from individual vehicles as traffic flow is slowed. Tower Hamlets's Action Plan aims to operate alongside the road safety programme and to develop new initiatives that complement efforts to improve air quality.

Short car journeys cause significantly more pollution in relative terms and are often unnecessary as the Borough benefits from a substantial public transport network.

Physical Traffic Management: Speed and Flow

Traffic speeds in Tower Hamlets often range between 5 and 10 mph

Traffic speeds in Tower Hamlets often range between 5 and 10 mph on major routes due to congestion. Frequent stopping and starting together with the poor efficiency of running a cold engine on short journeys contributes to local pollution levels being above those set in the national objectives.



Smoothing the flow and regulating the speed of essential traffic through the borough will actually help reduce emissions from individual vehicles. Speed limits along the A12 are imposed at 50 mph locally. This will help to reduce emissions from speeding cars as significantly higher levels of pollution are produced at 70mph than from traffic flowing at an optimum speed of 50mph.

Aldgate: Forging a Gateway

In 1998 Cityside Regeneration Ltd, working in partnership with Tower Hamlets Council, local businesses and the Guildhall, put forward a number of proposals to transform the Aldgate subway system. The proposals rationalised and improved part of the complex subway system and permanently closed lengths of the subways on the eastern side of the Gyratory. The report also detailed a major traffic management and environmental improvement scheme with a long-term aim of removing the Gyratory and introducing a more human and user-friendly environment.

Tower Hamlets will encourage TfL to secure funding for the implementation of this scheme, which will achieve better management and control of traffic in that area as well as improving facilities for passenger interchange between bus and underground services.

A12 Route Management

The A12 is targeted as an area for improvement due to the high levels of traffic and congestion. It is proposed that the Blackwall Tunnel Northern Approach will be managed along the whole route rather than just the section at the entrance to the tunnel.

20 Mile Per Hour Zones

Although 50mph is the optimum speed for reducing exhaust emissions, it is recognised that a balance needs to be achieved with road safety, especially in major residential areas.

At the request of TfL's Congestion Charging Unit, the Council will be adopting a number of measures designed to complement the aims of the Congestion Charging Zone. Local areas that are suitable for imposition of a 20mph speed limit have been identified and the entire Borough divided into 34 zones. The zones with the 6 worst accident records will be targeted first but it is intended to extend this to the other zones as funding becomes available. Environmental Health and Traffic and Transportation will be working together to examine levels of particulate matter before and after the introduction of traffic-calming measures.

The following measures are proposed to complement existing traffic calming measures:

1. Introduction of zone entry/exit points with red carriage-way surfacing, 20mph roundels and signs
2. 20 mph roundels in minor roads
3. Traffic calming along the main through routes in the form of speed cushions or other emergency service friendly measures
4. Introduction of pedestrian facilities

Key Actions

16. Seek to encourage improved management and control of traffic entering and circulating the Gyratory at Aldgate East, working towards its eventual removal and the introduction of a two-way system.
17. Impose a 40mph speed limit on the section of A12 running through Tower Hamlets to attempt to balance air quality and safety.
18. Evaluate the air quality impacts of the introduction of 20mph zone schemes and traffic calming measures.
19. Use GIS air quality information to prioritise areas for traffic management improvement measures.

Air Quality Impact: Medium

The potential to improve air quality through Traffic Management Schemes is moderately high. The influence of Transport for London in Tower Hamlets is significant and working closely together will produce enhanced benefits.

Routing Traffic and Road Hierarchy

Tower Hamlets Council has designated a hierarchy of roads for the borough into the following categories:

- Major roads and secondary roads
- Local distributor roads
- Local access roads
- Residential roads

Major Roads and Secondary Roads

These major roads are managed and controlled by Transport for London (TfL). They have a primary traffic carrying function in which bus and freight movements are prioritised. However, pedestrians still need to cross these roads to access buses and Tube/DLR stations at key locations. A Station Accessibility Study is currently underway to look at this aspect. Secondary roads form a link between the major roads and have a general role in distributing traffic around the borough.

Local Distributor Roads

There are many distributor roads in the borough that take traffic to and through the borough's main shopping areas. The Council works hard to optimise the efficiency of traffic movement on these roads.

The focus here is on the needs of shoppers, bus services and access for freight. They have an important distribution function in taking traffic towards local areas and serve as hopper bus routes.

Most of these roads are routed through major centres in the borough. Recognition is therefore given to road frontage land uses, by making provisions for high pedestrian activity and applying appropriate waiting and loading restrictions.

Working together, Planning Services and Environmental Health Officers will review land use along these routes having regard to levels of air pollution. The use of Planning Controls will be considered to improve both pedestrian and traffic flow. Safer Routes to School policies are applied locally within this category of road use.

Local Access Roads

The efficient use of access roads focuses on improving safety and the perception of the pedestrian environment. At the same time, their design should meet the needs of vehicle paths.

Safer Routes to School initiatives and 20mph zones are appropriate for this category of road use, as these roads only serve to

access residential and commercial areas. Whilst traffic flow is designed for safe movement, priority is given to pedestrian and cycle movement.

Residential Roads

These are not currently classified within the borough's road hierarchy, but it is proposed that they are included and highlighted to raise the profile of Home Zone schemes.

There are currently large local increases in new traffic being generated as a result of local developments such as Canary Wharf on the Isle of Dogs. The Council is ensuring that the only proposals for road building receiving support are those that are designed to bring local environmental benefits.

Key Actions

- 20.** Provide comprehensive and accurate local information to the Mayor and the GLA for use in reviewing the London's road hierarchy.
- 21.** Ensure that Planning Officers are fully updated with road hierarchy information for the review and development of the UDP.
- 22.** Work together with Planning Services and the Environmental Health, Environmental Protection Division to review land use along local distributor roads having regard to levels of air pollution and to use planning controls to improve traffic flow.

Air Quality Impact: Low

Regulating land use along local distributor roads can help to smooth traffic flow and protect pedestrians from high levels of air pollution from road sources. However, re-routing and changing road hierarchies may only lead to traffic being displaced to elsewhere in the borough.

Street Signage, Street Environment and Home Zones

The aim is to enable the local community and visitors to find their way to and from public transport connections and public buildings with ease.

Over a 5-Year programme the Council is seeking continued funding for three separate improvement bids, based on the Tower Hamlets Street Design Guide, to improve access throughout the borough and the local street environment. The details of the improvement bids and their status are outlined below:

Street Signage

The Council has recently developed a Street Design Guide. This is intended to establish a consistently high quality of materials and specification both for new works and future maintenance programmes.

Although the main elements of the Street Design Guide are now in place, the Borough Signage strategy needs further development for incorporation into the Design Guide. This need has arisen to take account of the many new developments within the Borough, the desirability of co-ordinating a range of signage programmes and to ensure a common branding and consistency of approach.

The aim is to enable the local community and visitors to find their way to and from public transport connections and public buildings with ease.

The Borough Signage Strategy should be completed by Spring 2004 and a bid to TfL for £50,000 each year over a three year period will focus on pedestrian signage. As part of the Signage Strategy, the Council will establish a programme of works for new pedestrian signage towards Borough attractions and will rationalise or replace existing pedestrian signage.

Streetscene

In 1998 the Council initiated a new approach to achieving a Best Value solution to upgrading the Borough's public highways. Known as Streetscene, the project addresses the visual and environmental



impact of the streets and public spaces in which people live, travel and work. This project takes a holistic approach to Best Value. It crosses organisational and directorate boundaries, taking a long term view as well as tackling priorities of immediate concern. The project pulls together over £300m worth of services and the work of nearly 800 staff.

The Council's Streetscene programme was first reviewed last year and currently aims to improve the appearance of targeted areas within the Borough. The programme is currently focusing on a project in Devons Road (B140). This is one of the most heavily trafficked local roads in Tower Hamlets. In addition, the road dissects large residential areas creating an obstacle to pedestrian movements, especially school children. Several improvements are, therefore, proposed. These include:

- Removal of street clutter
- Improved pedestrian environment
- Traffic calming for safe pedestrian crossings
- Improved parking and delivery layouts

The Council has identified other areas within the Borough that could benefit from the Streetscene programme and further bids will be made to try to secure the necessary funding.

The review intends to tackle not only service issues, (i.e. how clean/uncluttered the streets are) but also the factors which determine them including public attitudes and behaviour, the quality of streets and open space design.

There is comprehensive consultation with street users living, working or passing through the borough, planning officers and policy makers, front line service providers, contract managers and designers of public spaces.



The majority of projects currently being undertaken or proposed in Tower Hamlets follow this Streetscene ethos, including partnership projects undertaken with TfL, Cityside and Leaside Regeneration and as part of other Council Strategic Priorities such as the Thames Gateway.

Home Zones

The transformation of residential streets in Tower Hamlets into Home Zones involves the re-organisation of public space including measures to reduce the speed of vehicles and accidents. It also aims to promote natural surveillance by residents using their street as a place to talk to neighbours.

Residents should be able to let their children play and cycle without fear. This in turn will encourage walking and cycling locally in preference to using the car for short trips. The neighbourhood will therefore benefit from a reduction in congestion, noise and air pollution.

The aim locally is to transform streets back from being used solely as car corridors, to valuable outdoor spaces for use by all the community. Improved streetscape, including lighting, CCTV and use of high quality materials, empowers residents to utilise local amenities such as play-parks, open space and frontages and forecourts for leisure, exercise and play. There can also be an improvement in the appearance of urban open spaces by bringing back into use redundant buildings and spaces unused by the residents.

Community involvement is an essential ingredient in the planning of a Home Zone so the scheme can address local people's needs and aspirations as fully as possible.

The Council's bid for funding in 2003/04 is larger than in previous years as 2003/04 sees the beginning of the second phase of implementation overlapping with the completion of the first. Tower Hamlets is a leading London borough with regard to implementing Home Zones but received no funding in 2002/03 from TfL or the DTLR.

The Council is seeking funding for three Home Zones in 2003/4 for Lansbury Street, Ashfield Street and Mansford Street. The Ashfield and Mansford Street schemes constitute the end of the first phase of the Council's Home Zones programme. This builds on the projects in Clark Street, Ellsworth Street, Watney Street and Swedenborg Gardens that are now completed or nearing completion. The Lansbury Street scheme represents the beginning of the second phase of the programme.

Clear Zones

Clear Zones is a government initiative aimed at reducing pollution and congestion in major urban areas making them cleaner and healthier places for people to live, shop and work. These Zones are effectively a progressive step up from Home Zones. They make effective use of technology and improved modes of transport to achieve a clean, efficient transport system both for

people and goods.

A priority for Clear Zones is to maintain a strong economy within a sustainable environment. This means reducing pollution from traffic without compromising access to business, local amenities or individual mobility.

The Council supports the development of Clear Zones and is working in partnership with the Mayor for London and neighbouring boroughs towards implementation in Tower Hamlets. We will also aim to learn from existing Clear Zones projects and liaise with other London boroughs who have implemented schemes in order to maximise their effectiveness.

Synergy with the Mayor of London's Transport Strategy

Policy KP (a) Reduce traffic congestion.

Policy KP (g) Support local transport initiatives, including improved access to town centres and regeneration areas, walking and cycling schemes, Safer Routes to School, road safety improvements, better maintenance of roads and bridges, and improved co-ordination of streetworks.

The consultation for a Home Zone specifically targets people who would benefit from environmental improvements to their local area, for reasons of immobility or social exclusion. In particular, elderly people, those who are disabled, children and young people, ethnic minorities and socially disadvantaged people are specifically encouraged to contribute to the project in ways that enable them to express their ideas with confidence.

Proposal 4G.9: The London boroughs and Transport for London should make greater use of their increased powers to introduce 20mph zones and speed limits, where appropriate. Priority will normally be given to residential areas with large numbers of children particularly where there are schools.

The London boroughs are also encouraged to consider the use of Safer Routes to Schools and Home Zones to complement 20mph speed limits. Consideration will be given to implementing 20mph areas, including sections of the Transport for London Road Network (TLRN), where there are very high pedestrian flows, road safety problems, schemes that can be effectively enforced and are without detriment to priority traffic.

Proposal 4G.10: The London boroughs will be encouraged to design and manage appropriate local streets as Streets-for-People areas emphasising their function as social spaces.

Priority will initially be given to areas of high deprivation, regeneration areas and in particular areas of high-density neighbourhood renewal. Transport for London will co-operate with these initiatives where they are likely to affect the operation of the Transport for London Road Network (TLRN).

Synergy with the Mayor of London's Air Quality Strategy

Proposal 34: The Mayor will encourage the implementation of Clear Zones and Home Zones by the London Local Authorities:

- To restrain the unnecessary use of private cars in order to achieve a more balanced allocation of road space between users.
- To improve the environment by restricting and calming traffic in residential areas and shopping streets.
- To improve safety and convenience of movement for all road users, especially pedestrians and cyclists.

Key Actions

23. Establish a transparent rationale for signage throughout the Borough, enabling the community and visitors to travel efficiently and effectively through the Borough using clear directions to public transport connections and attractions.
24. Continue with implementation of the Streetscene programme and bid for funding for further programmes.
25. Complete the first and begin the second phase of the Home Zone programme in prioritised areas of the borough, using air quality information on GIS in the decision making process.
26. Improve the street environment by restricting and calming traffic in residential areas and shopping streets. This will aim to restrain the unnecessary use of private cars in order to achieve a more balanced allocation of road-space between users.

Air Quality Impact: Medium

Improving street signage, street environment and creating Home Zones will encourage people to decide to change their mode of transport for short journeys through the Borough and to walk and cycle more.

Parking Management and Control

In May 2001 the Council adopted a 5-year Parking Plan for the Borough. The Parking Plan aims to reduce the amount of intra-borough travel and non-essential commuting. It was developed to establish priorities that are supportive of the Council's wider objectives for transport, environment and sustainable development. The Parking Plan is an important transport management tool, complementing the Council's Transport Plan and UDP and containing the parking standards for new development.

The Parking Plan ensures that parking policies in the borough support economic regeneration but do not jeopardise environmental objectives. The Plan recognises that Tower Hamlets is a borough of contrasts with pockets of prosperity and deprivation. A balance has been sought following extensive local consultation between the challenge of economic growth, social inclusion, air quality objectives and the growing demand for car ownership.



A borough-wide Controlled Parking Zone has been established and a review of the 5-year Parking Plan will be submitted for approval in December 2003. This aims to implement the following schemes where feasible and to periodically review and assess their effectiveness:

1. Mini-zones to deter car-based commuter parking in acute areas, for example around underground stations and adjacent to the Congestion Charging Zone's boundary.
2. Increased hours of parking control where appropriate.
3. A unified parking scheme to prevent duplication between parking permits on the street and on housing estates.
4. A high enforcement strategy in acute areas.
5. Regular reviews of the Pay and Display charges and consideration of a reduction in the times of short stays to deter long stay parking, particularly in the most congested parts of the borough.
6. Resident Permit costs to be reviewed regularly by Members in relation to neighbouring Boroughs. Equity implications for residents must be considered and price differentials put in place for additional vehicles.
7. Public Service Permits to require a more stringent qualification criteria. This aims to restrict non-essential, office-based Council staff while allowing legitimate parking for public sector workers who need to make regular visits within the community.

8. Business Permits to require a more stringent allocation and increased charges for additional permits.
9. Disabled Permits to exempt users from the scheme and to vary national concessions including introducing personalised disabled bays and maximum stay outside public buildings. Fraudulent use is also being addressed.
10. Off-street coach parking is lacking, especially for overnight parking in the Borough although there are land constraints.
11. Off-street car parks have an unmet demand. There may be opportunities for underground parking but this must be balanced against traffic reduction targets.
12. Motorcycles use fuel efficiently and take up less road space. Provisions for motorcycle parking will be examined to determine how their use can be encouraged.
13. The Council is responsible for direct enforcement of eight bus lanes with TfL having responsibility for others on Red Routes. CCTV enforcement of selected Bus Lanes, as well as Waiting and Loading restrictions on key roads (including all bus routes) where illegal parking impedes traffic flow, will commence shortly. Further Bus Lanes are programmed for introduction as part of the London Bus Initiative and London Bus Priority Network schemes.

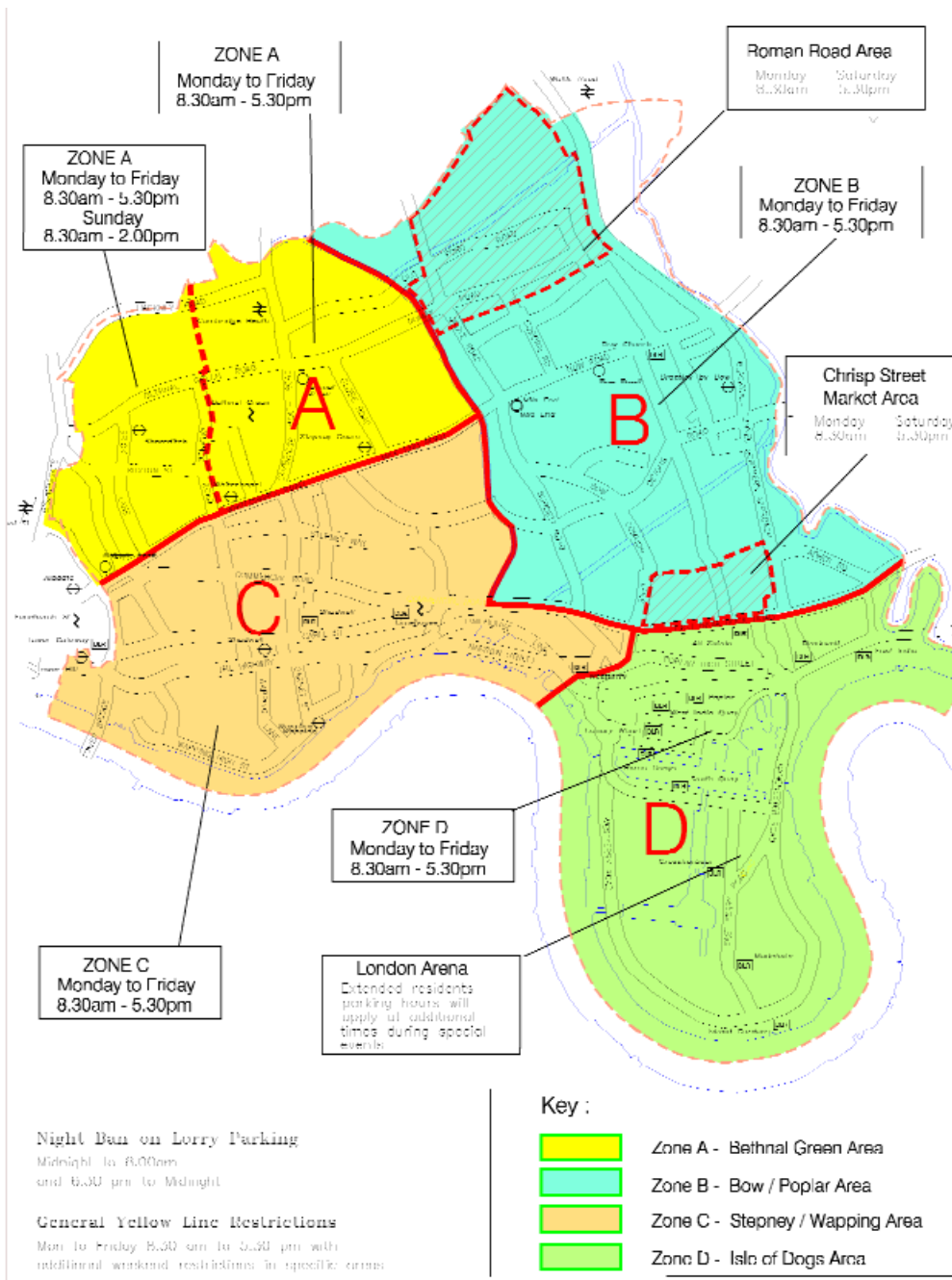
Car ownership within the Borough is also predicted to increase by up to 6,000 by 2006.

Council Officers have, in addition, highlighted a concern relating to free limited waiting on red routes that are the responsibility of TfL. There is a difference in the level of parking control applied in these areas which needs to be examined.

Car ownership within the Borough is also predicted to increase by up to 6,000 by 2006, placing pressure on on-street parking provision. Over the same period up to 12,800 additional jobs will be created in Tower Hamlets.

It is a policy objective of the Council's Parking Plan that the total supply and location of parking spaces should have regard to the Council's ability to meet air quality objectives. Strategic policy guidance emphasises the air quality and congestion benefits from the use of certain types of powered two-wheelers (PTWs), such as mopeds and small motorcycles under 800cc, if they act as a substitute for car use. The use of PTWs also contributes to the Council's Sustainable Transport Strategy with benefits of relatively low pollutant emissions and efficient use of kerbside space. A discounted residents' permit rate is offered for PTWs to reflect these benefits and encourage their use in the Borough as an alternative to the car.

Mini-zones are being considered in key areas. Pseudo mini-zones already exist, primarily for street markets at weekends



Map based upon Ordnance Survey information with the permission of the Controller of the Map, Ordnance Survey, 100, High Holborn, London WC1A 3DU

around Columbia Road and Chrisp Street. Currently the borough is divided into 4 parking zones as shown in the map above. The Council is looking at dividing Zones A, B and C further to discourage journeys from one area of the same zone to another. As these journeys are very short, they are more suited to other modes of transport and, as the engines remain cold, the vehicles emit relatively more pollution per mile.

The £5 congestion charge being added to the already high parking charges is a clear disincentive for car drivers to enter the Charge Area. As the boundary of the Congestion Charging Zone runs through the western part of the borough, parking problems have been anticipated around the border where there is already considerable stress on supply. To address the impact

from displaced parking, mini-zones will be considered and fees and charges reviewed.

The Mayor's congestion charging scheme was introduced in Central London in February 2003. Initial figures indicate that the projected reduction in car-based work journeys to the central area of London has occurred with potentially significant benefits to air quality in Tower Hamlets. The figures for traffic flows along the main roads in the borough leading to and around the Congestion Charging Zone have recently been received. The impacts within Tower Hamlets and any changes to existing policies that may be required will now be assessed.

A review of parking fees and charges was reported to Cabinet in October 2002 and increases came into effect from December 2002. The increases were recommended to address:

- Inflation
- An unsustainable increase in car ownership
- Deterring unnecessary car use
- To reduce levels of air pollution
- To reflect prices in surrounding inner London boroughs
- To improve enforcement on illegally parked vehicles.

Another regulatory tool available to the Council for addressing off-street parking is through the UDP and planning control process. The current standards for parking provision on new developments are currently being reconsidered as part of the wider review of the UDP. It is intended to bring the standards in line with the Government Guidance note, PPG13. The proposed



changes include having maximum rather than minimum parking requirements, reducing the amount of off-street parking in new developments where appropriate and identifying addresses which would not qualify for on-street parking permits.

The UDP also includes a requirement for off-street coach parking for new hotel developments of one coach space per 100 bedrooms to reduce the need for individual journeys.

The Council has a statutory responsibility under the Road Traffic Reduction Act 1997 to set targets for reducing traffic growth. Only major public transport initiatives are likely to provide an alternative to the private car but this is a long term rather than immediate solution to achieving significant reductions in road traffic.

Key Actions

27. Work closely with TfL to ensure the disparity between on-street parking control and parking on red routes is resolved.
28. Regularly review parking fees and charges and increase levels where necessary to deter unnecessary car use.
29. Consider implementing mini-zones to target acute parking stress on the congestion charging fringe and around underground stations to encourage use of the underground in preference to the car.
30. Air quality information from the Environmental Health, Environmental Protection Division will be provided on GIS so that it can be taken into consideration when determining necessary levels of Parking Control.
31. The Council will examine the possibility of giving a discount on parking permits to owners of alternatively fuelled vehicles.
32. Parking Control will work closely with Planning Officers and the Environmental Health, Environmental Protection Division to identify areas of the borough where new developments should be car free.

Air Quality Impact: High

Controlled parking in Tower Hamlets is essential to manage on-street and off-street parking levels, achieving a balance between economic growth, social inclusion, air quality objectives and growing demand for car ownership. Increasing parking restrictions, fees and enforcement discourages car use. Permit reductions will be considered for alternatively fuelled vehicles, to promote change and serve to both protect and improve local air quality.

Encouraging Local Cycling

The Council adopted a Cycling Strategy for the borough, on the 8th January 2003, to encourage more people to cycle.

In addition, the Council's travel awareness campaign, "Good



Going" was officially launched in September 2003. This is an umbrella campaign that aims to reduce car use by persuading people to travel by more sustainable modes of transport including cycling and walking.

Cycling is a relatively inexpensive form of transport, offers positive health benefits and has no polluting emissions. To encourage people to cycle, there must be safe, convenient, efficient and attractive facilities for cyclists across the Borough. These facilities must then link seamlessly into the Borough's public transport system.

A bid for funding has been prepared and submitted to improve bicycle parking facilities at schools and transport interchanges in the borough. It is intended to extend this scheme into Housing Estates in the future if funding can be secured. The provision of a free charging point for electric bikes in secure storage areas will also be investigated to encourage their use.

More work is planned to increase road transport enforcement activity by the local police. The aim is to improve road safety and public confidence, thereby encouraging existing car users to feel more secure about making the switch and using bicycles locally.

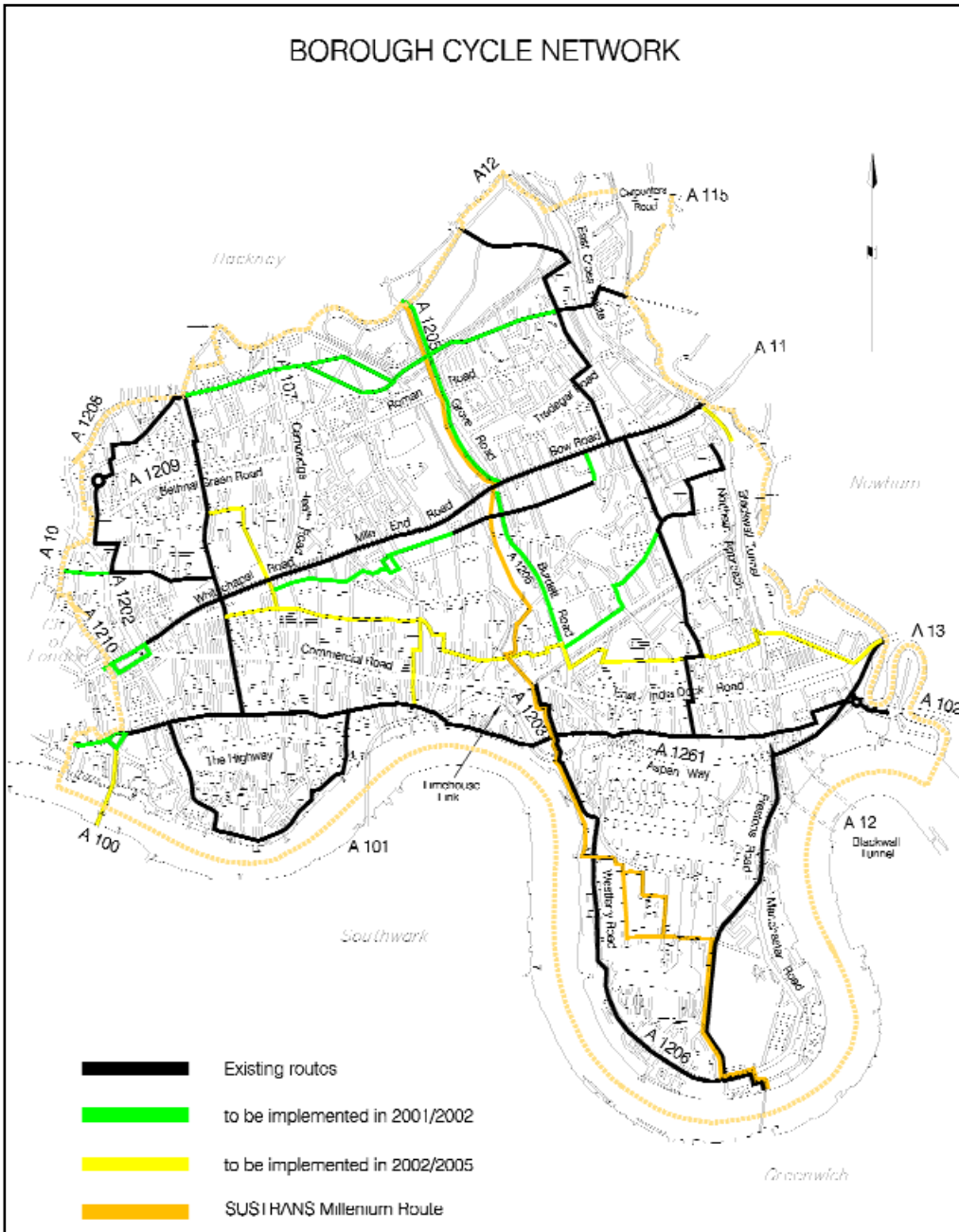
Cycle Training

Proficiency training is also important to give users confidence. Over the next five years the Council aims to promote and provide cycle training for community groups in addition to that provided to school children. This aims to teach people to cycle confidently and safely as well as encouraging cycling as both a leisure activity and means of transport.

Funding has been secured to train people to deliver this training and cycling buddy schemes, where experienced cyclists ride with beginners for support, will also be examined.

Tower Hamlets has a flat terrain ideally suited to cycling and walking. A network of cycle routes has been developed in the

BOROUGH CYCLE NETWORK



borough as shown in the map on the previous page. Bids will be made to secure funding for improving existing routes. In addition, an officer has been appointed for the Thames Gateway region who will be reviewing routes and developing a strategy for the whole region.

Successful implementation of schemes in Europe and the Far East show that a significant shift away from the car can be achieved. If this occurs, the air quality impact of this policy will be greater.

The Council has adopted the principles and targets of both the National Cycle Strategy (1996) and the London Planning Advisory Committee Cycling Strategy for London (1997). This is reinforced by UDP policies T22, 23 and 24 which state:

T22 Cycle routes will be introduced in accordance with the London Cycle Network in liaison with adjoining boroughs and the Lea Valley Regional Park Authority using, wherever possible, local access roads and the green chain. Provision for cycle lanes and cycle crossings will be made where the cycle routes use the primary or secondary road network.

T23 The safety and convenience of cyclists will be a priority in the design and implementation of all traffic management measures.

T24 Where appropriate, the Council will seek the retention or introduction of segregated cycle routes in new developments.

Key Actions

- 33.** Continue to promote the use of and improve the facilities around the borough for cycling.
- 34.** Continue to liaise with cycle groups and schools in order to fund training and support initiatives.
- 35.** Promote the use of electric bicycles and provision of secure storage for short trips around shops, the workplace and public transport interchanges.
- 36.** Increase the priority given to road transport improvement by the police to make roads safer for cyclists.

Air Quality Impact: Low

To have a significant impact on air quality, huge shifts will have to be made from car use to cycling. The investment in cycling facilities around the borough will help to achieve modal shift but the improvement on air quality is likely to be minimal without a significant amount of investment into new facilities and schemes.

Encouraging Walking

Encouraging walking locally, as a mode of transport, is supported by UDP policies T21, 22, 23 and 24, that state:

- T21** Priority will be given to the safety and convenience of pedestrians in the management of the roads and the design and layout of footways, including the use of street furniture, street lighting and the location of bus stops.
- T22** Measures will be introduced and supported to improve the quality, safety, and convenience of movement for pedestrians, particularly at public transport interchange, in shopping centres, and in areas of high pedestrian activity.
- T23** The Council will support the improvement of pedestrian facilities along the canals and riversides, and the Northern Sewer Outfall Embankment in collaboration with adjoining boroughs and the Lea Valley Regional Park Authority to form a strategic pedestrian route network.
- T24** Existing pedestrian routes will be retained and improved, and where necessary, replaced in new developments and traffic management schemes.



The Council has developed a Walking Strategy to promote walking locally and this is also incorporated into the Good Going campaign. As with cycling, the issues of safety, convenience and environment need to be considered to encourage people to make short journeys on foot.

The Council's Walking strategy addresses local access issues including pavement maintenance and safety. Many routes need to accommodate both cyclists and pedestrians and we will aim to resolve any potential conflicts between the two at the design stage.



Other incentives to encourage walking will also be implemented such as the offer of discounts for pedestrians during the recent “Worth the Walk” promotion.

Safer Routes to School

The first phase of the Safer Routes to School programme was launched in 2000 in the Roman Road Corridor. A co-ordinator has been appointed to oversee the projects and Phase 2 is currently underway. This involves 13 schools; 10 Primary, 2 Secondary and 1 Special Educational Needs School. Nine schools fall within the Bow catchment area, identified for Year 3 of the Safer Routes to School programme.

Safer Routes to School Areas

The Bethnal Green Area has been identified based on statistics on child accidents to and from local schools. The Area includes 19 schools with 5,626 pupils.

The scheme seeks to address a number of issues including:

- Commuter traffic and congestion
- Pollution and noise
- Hazards to pedestrians crossing roads
- A higher child casualty rate than elsewhere in the borough

Experience gained from implementing the previous schemes, indicates that a sum of approximately £100,000 per school is required to provide adequate measures that reduce traffic speeds and create a safer environment. A bid for £190,000 has been made to help towards the costs of their implementation.

The physical measures will be identified as part of the consultation exercise but the Council aims to introduce:

- Raised entry treatment at junctions
- Raised zebra crossings
- Road markings and red surfacing
- School signs and wig wags

Consultation and School Involvement

Consultation and liaison will be carried out with each of the schools within the Bethnal Green catchment area. This will inform the development of improvements for creating a safer environment for children and the local community as a whole.

To encourage consultation and liaison, a competition was held at the end of 2001, in which all schools within the borough were invited to submit drawings or designs on a theme of road safety. A 'SLOW ZONE' design has been adopted by the Council and is used on all 20mph-zone signs on entry to School Safety Zones.

Aims of the Scheme:

1. Generate enthusiasm for walking
2. Increase the number of children walking and cycling to school and reduce their dependence on cars
3. Improve general health and personal safety on the roads
4. Encourage pupils/parents, and make the community aware of the benefits of walking
5. Support and guide schools once ownership of the scheme has been accepted
6. Provide a sustainable scheme to meet the set targets
7. Reduce environmental damage caused by the car i.e. pollution including noise
8. Reduce accidents and casualties

It is anticipated that this scheme will be supported by a School Travel Plan Officer who will promote sustainable transport to schools, targeting pupils, parents and teachers.

Performance Indicators

Once the base-line information is available from the liaison with the schools, these figures can be used to set achievable targets. Site visits at specific times around the schools can be carried out to record and monitor traffic and pedestrian behaviour. When figures are analysed, the Council will then be able to establish any changes in patterns.

A borough-wide Safer Routes to School Strategy has been developed and will be adopted in the near future. The intention is to produce an Action Plan to identify other areas for improvement and to set priorities for a programme of engineering improvements and education programmes within the schools.

Key Actions

37. Implement and support the walking strategy for the borough.
38. Implement the Safe Routes to School scheme and produce a borough wide Safer Routes to School Strategy.

Air Quality Impact: Low

As with cycling, the impacts on air quality are likely to be limited unless a huge shift away from cars and to walking can be achieved. Improving the environment for pedestrians will help but it is unlikely to generate the shift away from car use that is required to impact significantly on air quality.

Partnerships and Travel Plans **(Workplace & Schools)**

Thames Gateway London Partnership

The Thames Gateway London Partnership has evolved as a sub-regional alliance of 13 Local Authorities, the London Development Agency, five Universities and the East London Learning and Skills Council. It aims to achieve sustainable regeneration of the Thames Gateway.



The overall vision for transport is:

"To achieve a sustainable transport system which provides access by a range of modes including public transport, walking, cycling and river transport. In particular, this will involve a reduction in use of the private car, maximum use of the River Thames and the adoption of appropriate parking and pricing measures".

The Council supports this sub-regional development strategy and is committed to working with the partnership to produce a sustainable transport strategy. A Travel Plan Officer has recently been appointed to develop and implement a strategy for the region.

Travel Plans

Travel Plans aim to encourage, promote and support the use of modes of transport that are deemed sustainable. They can play an important role in cutting the amount of road traffic and so reduce local levels of pollution.

Tower Hamlets Council is the largest employer in the borough, which means it can play a significant role in helping to improve local air pollution. It aims to develop a Travel Plan that identifies and promotes ways of reducing the use of the private car to, from and during work. A survey of employees is currently being devised in order to determine the baseline from which we will need to work.

The Government's Planning Policy Guidance Note 13 and the Council's UDP promote Travel Plans as providing the following sustainable transport objectives:

1. Decreasing car usage, particularly single occupancy journeys and increasing the use of public transport, walking and cycling.
2. Reducing traffic speeds, improving road safety and personal security, particularly for pedestrians and cyclists.
3. Developing sustainable delivery and freight movements, including home delivery services.

The Council has been actively involved in a number of campaigns such as Don't Choke Britain Campaign, Bike Week and European Car Free Day, all of which help to promote issues surrounding transport and air quality. The events provide opportunities to raise general awareness but can also be used to promote Travel Plans to other major employers in the borough.

It is important that the Council takes the initiative and leads by example through implementing its own Travel Plan. It can then use its experience to help others develop theirs and as a promotional tool.

Key Actions

39. To produce a Travel Plan for the Council.
40. Promote the development of sustainable transport schemes while achieving local regeneration through the Thames Gateway London Partnership.

Air Quality Impact: Medium

Achieving the level of change necessary to achieve the significant improvements in air quality needed requires a change in attitude, effort and commitment from the whole community including the Council, leading by example. The more widespread and successful the scheme, the greater the chance of successfully influencing local change.

Road Transport Promotion, Education and Awareness Raising

Travel Awareness

The Council has an important role to play in raising the profile of the modes of travel choice available, considering the local environment and offering local solutions such as Travel Plans. This helps to allow members of the public to make informed decisions on their route and modes of transport.

Don't Choke London

The Council will continue to take the opportunity to promote the concept of Travel Plans to local businesses and schools through the Don't Choke London Campaign. In addition to this, there are plans to use this opportunity to target heavy goods vehicle firms and promote alternative fuels.



Car Free Day

Car Free Day last year was held on Tower Bridge in conjunction with Southwark, TfL and the GLA. It was a huge success in terms of raising awareness of the link between air pollution and the harmful effects of vehicle emissions.

The Council will continue to use this event as an opportunity to raise public awareness of alternatives to the private car through promoting modes of sustainable transport such as cycling, walking and public transport. Future plans are to continue with the road closure theme so that the public can appreciate a street environment with little or no traffic, air pollution or noise.

Bike Week

The Council were involved in a range of activities for Bike Week 2003. This included promotional days at the Royal London Hospital where free breakfasts were given to cyclists and a range of different bikes were on display.



Walk to School Week

Walk to School Week Campaigns illustrate to children that walking can be a fun, safe and healthy way to get to school.

In 2002 the Council ran a successful campaign that involved a number of local schools. The campaign was based upon awareness of senses including smell, sight and hearing, whilst walking to school.

A competition was held to design a school safety sign. These are currently being implemented around the borough and the children who participated have a real sense of being involved in making their streets a safer place for all.

The campaign was repeated in 2003 with 36 schools in the borough participating. Activity sheets for the children were designed to get the message across in a fun and interesting way.

Key Actions

- 41.** Provide comments on and contribute to the formation of proposals that seek to promote green travel on a London-wide basis.
- 42.** Continue to participate in and to seek community involvement in London wide initiatives to inform decision making on travel choice, considering the local environment.

Air Quality Impact: Low

All publicity campaigns must be supported by action and real local change to encourage future involvement, commitment and to have an impact on local air quality.

Low Emission Zones

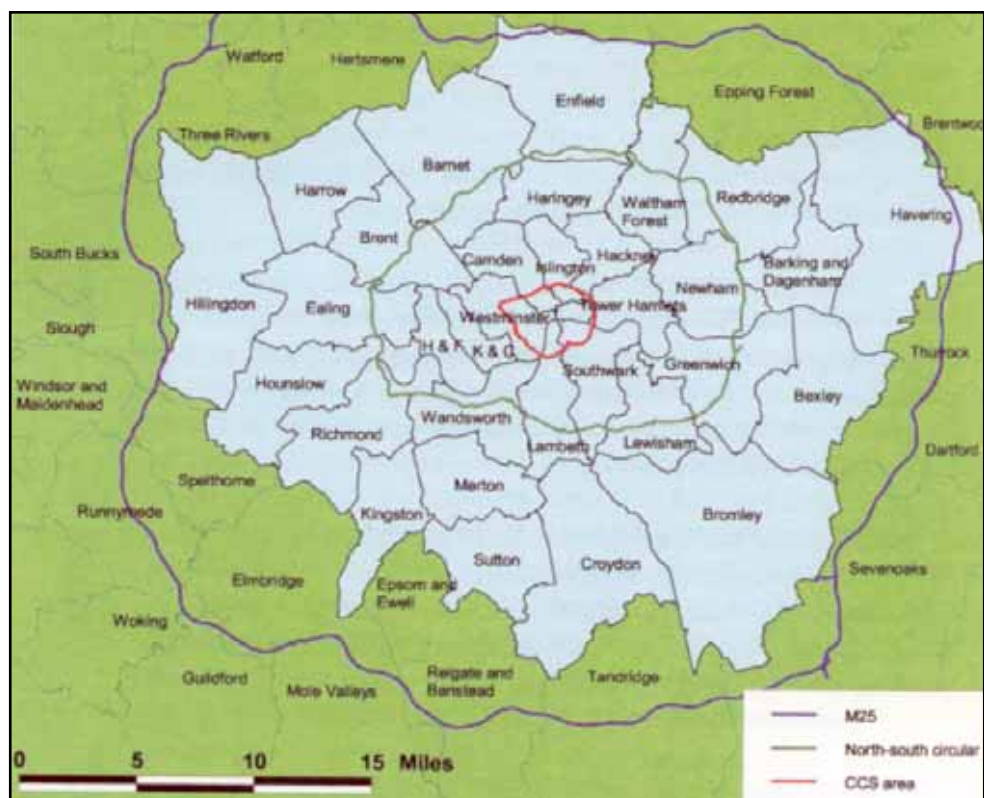
A Low Emission Zone (LEZ) is a restricted area through which only permitted vehicles are allowed to travel. Vehicles are only allowed to enter based on their exhaust emission standards thus denying entry to the most polluting vehicles. The aim is to protect and improve air quality.

The Environment Act 1995 enables the appropriate Road Traffic Regulation Orders to be made to achieve an improvement in air quality. The local Highways Authority would regulate any designated LEZ. LEZ's have proven successful in other major cities, particularly in reducing nitrogen dioxide and PM10. It is currently promoted as the main tool for protecting and improving London's air quality.

The effectiveness and various options for designating a LEZ in London were considered in a recent feasibility study. This study included examination of the following issues: the area that the LEZ should cover, the vehicles that should be targeted, the standards that should be set and the methods of enforcement.

The areas considered for implementation in London were:

- Within the Inner London Ring Road (Congestion Charging Zone)
- Within the North and South Circular Roads
- Within the boundaries formed by the London boroughs
- West London / Heathrow
- Within the M25.



The feasibility study concluded that, in order to work towards the national air quality objectives in London, a LEZ covering the area bounded by the M25 would be needed. However, owing to the practicalities of setting it up and enforcing it within this area, the recommendation is that the LEZ should be introduced to cover all the London boroughs.

Tower Hamlets Council fully supports the creation of a LEZ that includes the borough and will co-operate with the Greater London Assembly on its set-up and implementation.

The Mayor of London's strategy and the feasibility study consider that the socio-economic impacts, cost-effectiveness and implications for enforcement from making the zone apply to cars would be too high. The study, therefore, recommends that the LEZ apply initially to HGVs, buses and coaches but that this could then be extended to light goods vehicles at a later date. Taxis and private hire vehicles can be targeted using the existing licensing framework and would not, therefore, be included.

Prior to any decision on the implementation of a Low Emission Zone, the Mayor will first take account of the views of those who are likely to be affected.



The LEZ is mostly likely to impact on transport operators with older vehicles who have not yet begun to upgrade their engines to at least Euro II or above. The study concluded that owing to the complexities of establishing the LEZ, implementation is unlikely to occur before mid-2006 at the earliest. The years leading up to its introduction can, therefore, be used to raise awareness amongst transport operators and encourage them to work towards the target and budget for changes to the vehicle fleet.

A programme of continuous improvement and engine performance upgrades is likely to follow for fleet operators, including the Council, to allow them to enter the LEZ in future, as tighter standards are imposed.

Enforcement of the Traffic Regulation Order for an LEZ is likely

to take place in two ways. Transport for London would take responsibility for those vehicles under its regulations. This includes most buses and coaches subject to a London Service Permit. Several enforcement options were considered by the study. These range from a manually enforced HGV-only strategy to a more rigorous system using both mobile and fixed Automatic Number Plate Recognition (ANPR) cameras.

The method of enforcement needs to balance the costs of setting up the system with the potential revenue to be gained. It is likely that the current measures for enforcement within the Congestion Charging Zone will be built on and combined with a permit system.

A system that requires manual checks of vehicles for permits and the issuing of Penalty Charge Notices would probably require the co-operation of borough parking officers. The costs and revenues involved in this work would need to be examined but Tower Hamlets supports and would aim to assist a London-wide solution to enforcement.

Most London boroughs believe that a London wide LEZ is the best tool to significantly reduce current levels of air pollution. By targeting the worst polluters, the level of improvements in local air quality may be significant, particularly along roads with a high volume of HGVs, buses and taxis.

Key Actions

- 43.** Work closely with the Mayor and GLA to publicise the results of the feasibility study and raise local awareness through the local Council newspaper, East End Life, delivered to every home in the borough.
- 44.** To work with the Mayor, the GLA and other London boroughs on establishing the proposed London-wide LEZ and providing assistance on its enforcement.

Air Quality Impact: High

A LEZ is likely to achieve a significant reduction in nitrogen dioxide and PM10 by only allowing access to vehicles with lower emissions.

Road User Charging

The aim of road charging schemes is to reduce congestion and to raise finance for infrastructure improvements. Levying a toll on the Blackwall and Rotherhithe Tunnels are options, following the Dartford Crossing approach. However, this measure may actually increase congestion, as traffic flow would be slowed significantly at any tollgates.

The Council has no plans to implement road user charging as yet but will support any future studies that would include Tower Hamlets in a London wide scheme. This includes any expansion to the Mayor for London's Congestion Charging Zone.



Key Actions

45. None at present

Urban Traffic Control Systems (UTCS)

TfL, through Traffic Technology Services, manage all the permanent traffic signals in London. However, changes to local signal systems, including recommendations for new



signals, are borough led. The timings of traffic lights must be reviewed and optimised to ensure the smooth flow of traffic and minimise congestion at peak travel times.

There are various categories of UTCS and detection devices, which enable the detection of individual vehicle types. Use of Selective Vehicle Detection (SVD) is a high priority for the London Bus Initiative, although this is not being carried out in Tower Hamlets at present. The SVD system allows bus-stopping times to be managed effectively avoiding bunching through delays in congested traffic.

As part of this initiative there are new signalled junctions on bus route 253 along Cambridge Heath Road and 5 existing zebra crossings will be converted to pelican crossings on bus route 55 along Hackney Road.

Key Actions

46. Continue with the monitoring and review of traffic signals to optimise signal timings to achieve the best balance for traffic flow and pedestrians.
47. Assist with the development of the London Bus Initiative (SVD) implementation, highlighting local areas of bus congestion and where local air pollution levels are highest.

Air Quality Impact: Medium

UTCS will help to smooth traffic flow and make journeys more efficient. The SVD system will improve the reliability of buses and help to encourage modal shift.

Reallocated Road Space

The Council will continue where possible to support re-allocation and transfer of road space to lower polluting vehicles including high occupancy vehicles, motorcycles and cyclists. Hackney Road, Cambridge Heath Road and the A11 leading to Stratford all have new bus priority lanes with camera enforcement. Some lanes have been made available to taxis and cyclists as well.

Where changes to bus lanes are proposed or plan to be introduced on TfL roads, we aim to contribute and have significant input into the decision-making process.

In the past, the main concern has been to smooth traffic flow and ease congestion. In future, when decisions are made concerning further reallocation of road space, air quality maps provided on GIS will be used to target areas where air pollution and congestion are worst.



Key Actions

- 48.** Contribute to reviews of bus and cycle lanes across the borough, giving particular consideration to areas where air quality is poorest.

Air quality Impact: Medium

By re-allocating road space to less polluting vehicles, a shift to a more efficient mode of transport is facilitated. However, careful planning is required to achieve an effective balance, as less space will be available for other road traffic causing congestion.

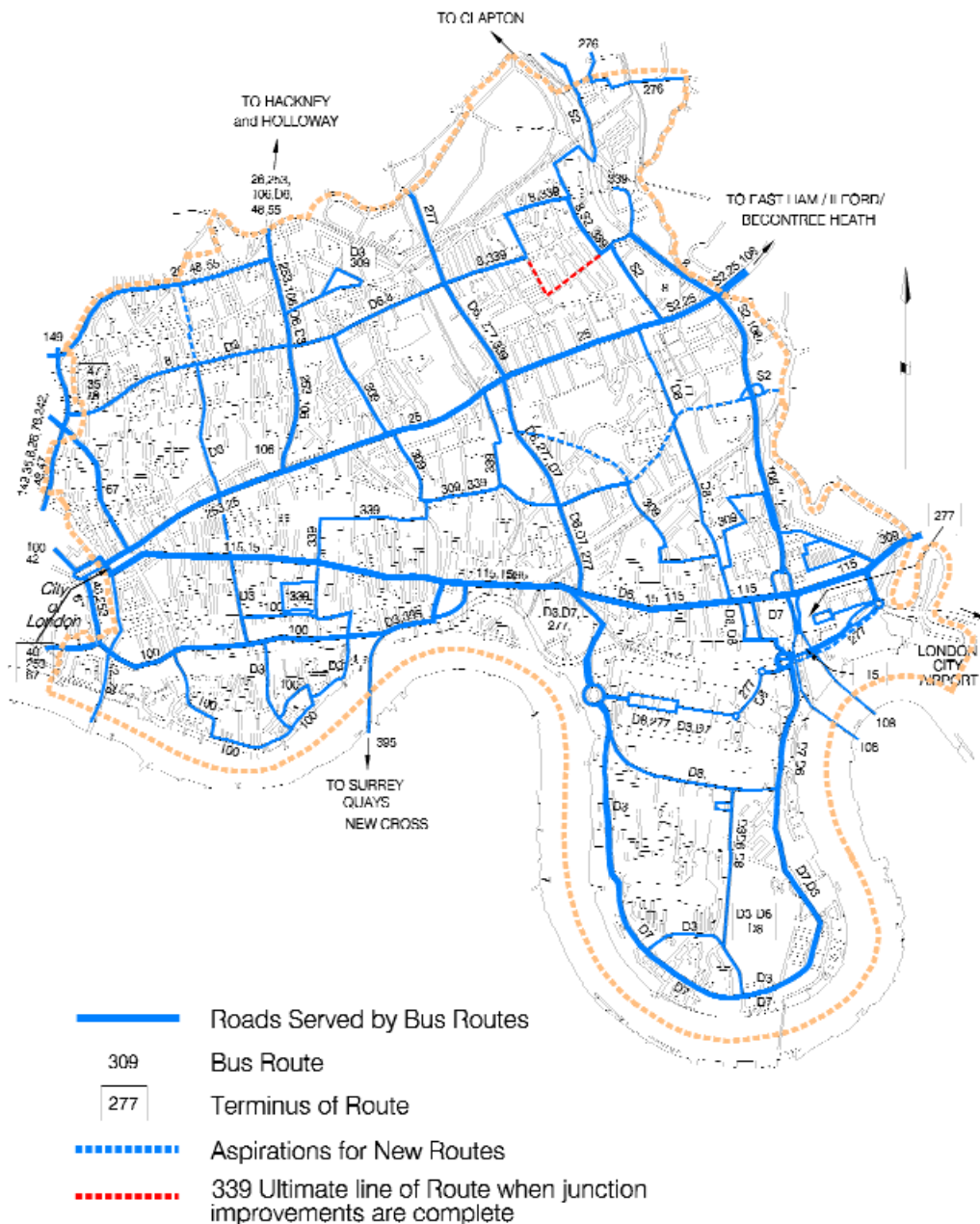
Public Transport Initiatives - Bus

The Bus Network

Buses are an essential part of London's transport system and their importance is growing. Encouraging people to use the bus and leave the car at home is vital if the air quality in Tower Hamlets is to be improved. The Mayor's Air Quality and Transport strategies emphasise the role the bus has to play and aim to make radical improvements to bus journeys in London, including addressing unreliable and slow journey times.

The bus is seen as the backbone of the public transport system in London and plays an ever-increasing role in the public transport service for Tower Hamlets. Increasing the accessibility to a

BUS ROUTES SERVING THE BOROUGH (Daytime services)



good bus service for the residents of the borough will help to achieve a modal shift in transport.

A Station Accessibility Study is currently being conducted that assesses the public transport stations in the borough for their ease of access. Where stations open on to main roads, the information will be provided to TfL who have responsibility for these roads so that TfL can also consider improving access.

The bus is often used as one part of a total journey, linking to another mode of public transport. To encourage a reduction in car use, a seamless interchange between the bus and other forms of transport needs to be developed and improved to meet customer expectations.





The Council's Bus Strategy demonstrates a positive stance to improving the local bus service. Its vision is to create a:

“High quality, reliable network of bus services, readily accessible to every resident, worker and visitor in Tower Hamlets.”

This is to be achieved by enhancing the local relationship with bus operators so that local issues can be resolved efficiently and effectively. It also aims to increase the level of co-operation and partnership working between the Council, regeneration agencies, business and developers that will help to improve the adequacy of bus services. The Council is also working with the Accessible Transport Consultative Forum and Transport for London (TfL) to help meet the need for improved transport interchanges.

The London Bus Priority Network (LBPN) and the London Bus Initiative

This network includes all 33 London Boroughs and is designed to create priority routes for buses. The aim is to reduce the effect congestion has on bus movements thereby increasing reliability and reducing delays.

The LBPN launched the London Bus Initiative (LBI) in April 2000. The aim is to develop and enhance the actual and perceived quality of London's Bus Service.

The LBI targets the whole journey as seen by the customer, looking at improving pre-journey information, route planning and access to bus stops.

The Council fully supports the work being undertaken to completely integrate the bus service provision locally with all other modes of public transport. The effective planning and development of transport interchange facilities are essential for encouraging a shift to public transport.

Key Actions

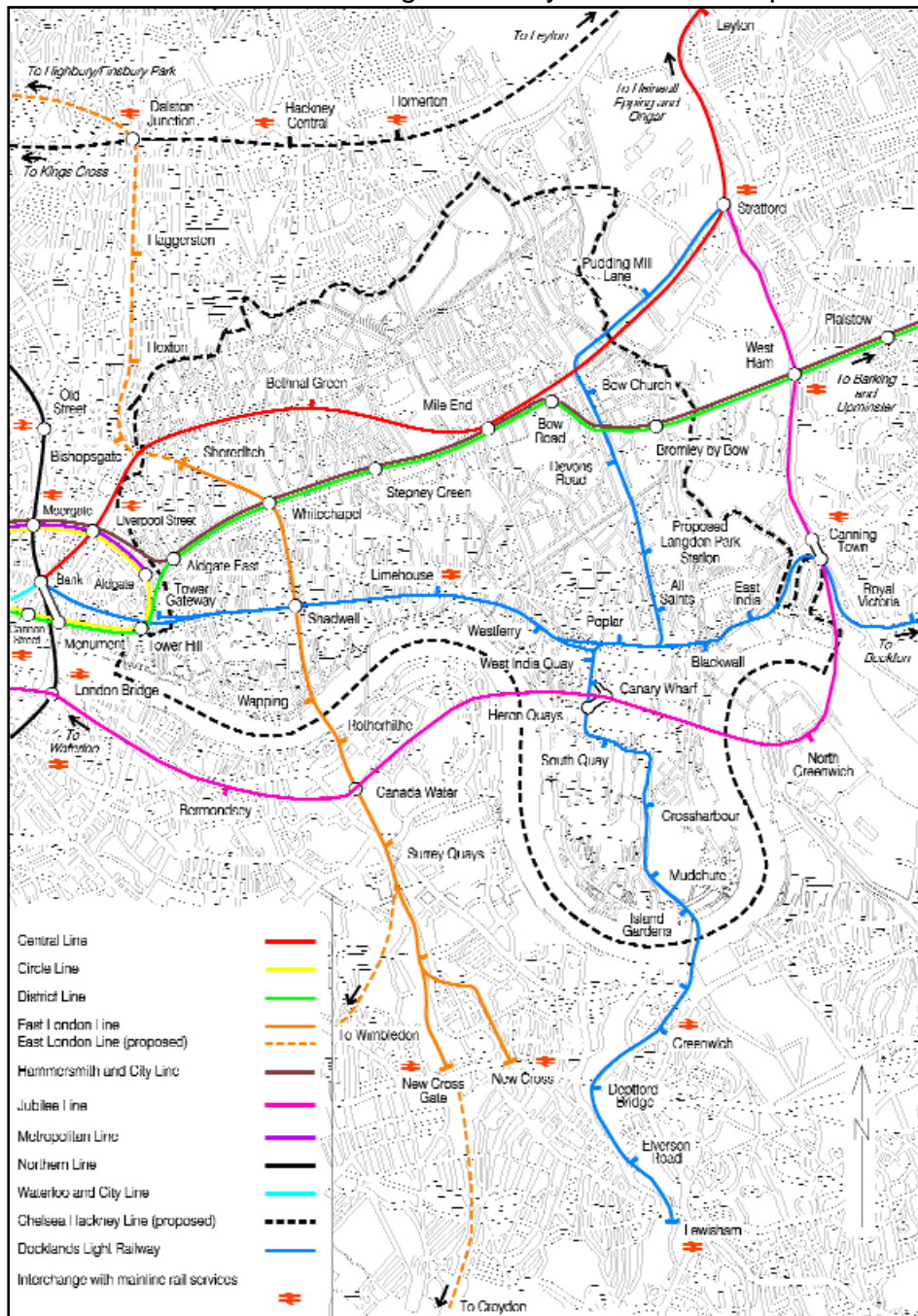
- 49.** Work with bus operators to improve bus accessibility so that low floor accessible vehicles provide 75% of annual bus journeys (km) and 75% of low frequency routes depart on time.
- 50.** Work with the other London Boroughs to implement schemes that seek to improve efficient running on TfL roads including road space allocation improvement, camera enforcement, SVD and traffic signal priority as part of the London Bus Initiative.

Air Quality Impact: Medium

Buses provide an essential link to other modes of public transport, particularly rail, London Underground and DLR. Achieving a modal shift from cars to buses will see a reduction in local air pollution, smoother traffic flow and reduced congestion.

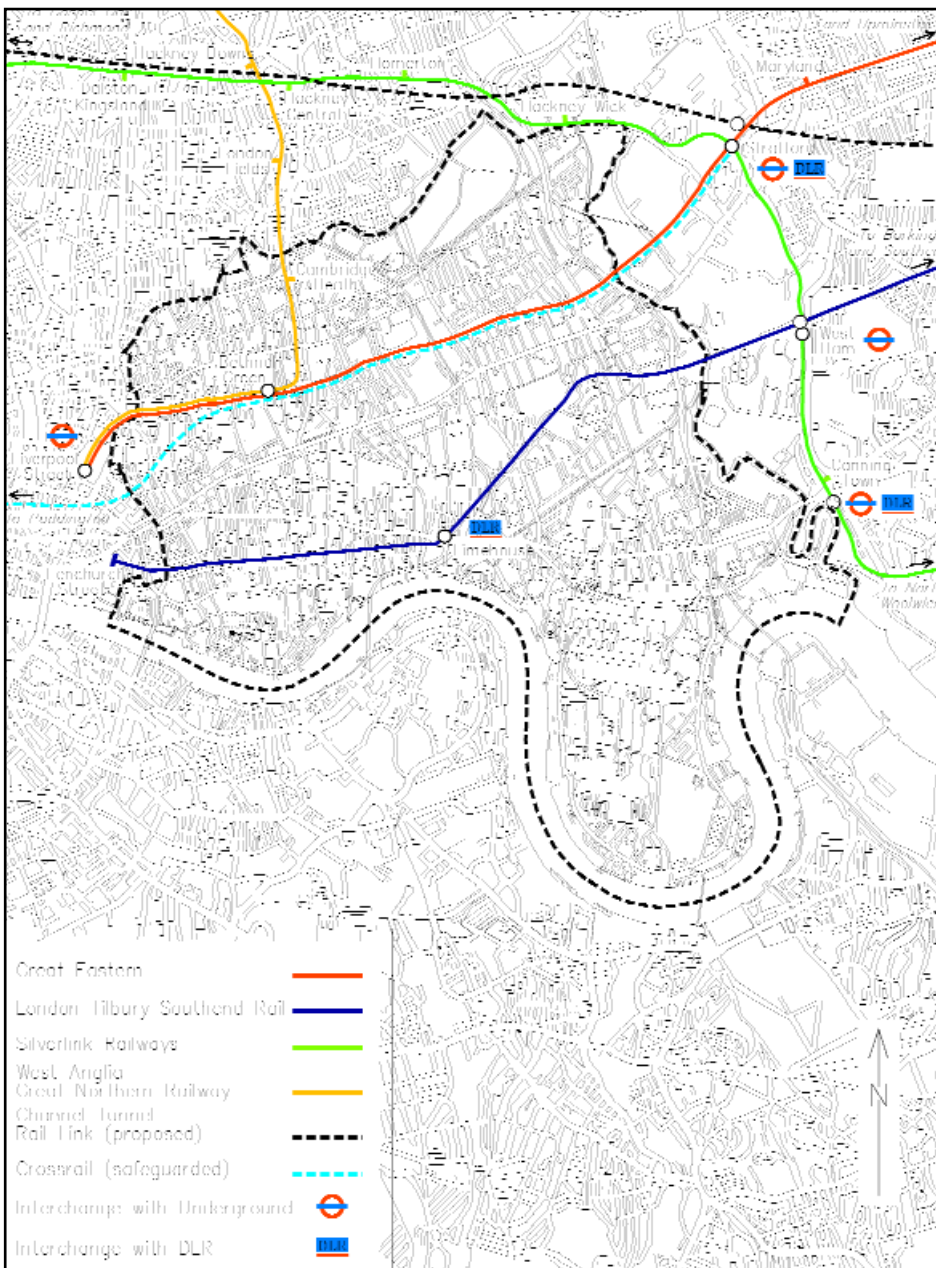
Public Transport Initiatives - Passenger Rail and Underground

Tower Hamlets has exceptional transport links with both the London Underground and Docklands Light Railway (DLR) network. The Borough has stations accessing the Central, District, Hammersmith and City, East London and Jubilee lines, with the Docklands Light Railway running over-ground. In addition to the Docklands Light Rail system two companies run



heavy rail facilities. One is run by West Anglia Great Northern (WAGN) and stops at Cambridge Heath, Bethnal Green and Liverpool Street Station carrying passengers from Essex, Norfolk and Stansted Airport. The other, by c2c, has a station at Limehouse with services that come into Fenchurch Street Station from Essex.

This network provides the major rail transport links into, through and out of the borough.



The Council's UDP transport section contains policies that support public transport infrastructure development including:

Policy T1: Improvements and extensions to the rail and underground services will be supported provided they are not harmful to the amenity of residents or otherwise damaging to the environment.

Policy T5: Improved interchange facilities, will be sought in liaison with public transport operators and, where appropriate, with private developers.

Policy T25: The Council will ensure that as far as possible major freight generators are located in areas with good access to rail freight services.

Developing efficient and effective transport modal interchanges and seamless integrated transport services is supported by the Council and actively sought by the Council from the Mayor of London and the GLA.

The East London Line and the DLR are both in the process of undergoing development work to increase capacity and enhance service delivery. This will significantly improve the public transport infrastructure that serves Tower Hamlets and contribute to reducing the need for road transport.



The proposed East London Line extension will expand London's commuter and orbital public transport networks and will service 4 million Londoners. Interchanges with other networks will secure more transport integration.

The DLR carries 44 million passengers a year and it is predicted that this will rise to between 60 and 70 million by 2006. To cope with the increasing demand for capacity, Tower Hamlets Council is assisting in the planning, review and

re-development process for expanding the service from operating 2 car trains carrying up to 360 passengers to 3 car trains carrying up to 540 passengers.

A proposed CrossRail line aims to link the Isle of Dogs and Whitechapel through to Essex, Suffolk, Kent, Heathrow, Reading and Watford. The preferred routes and funding decisions are being finalised at present. Tower Hamlets Council actively supports this joint venture between Transport for London and the Strategic Rail Authority and is currently facilitating geo-technical ground investigation works and consulting on predicted noise levels. Public consultation will take place in 2003 with a projected completion date of 2013.

The DLR carries 44 million passengers a year and by 2006 it is predicted this will rise to between 60 and 70 million.

This is a long-term infrastructure project that will improve public transport links into, through and out of London. Continuing to improve the public transport infrastructure is a positive and essential step towards facilitating the regeneration of the East End of London, benefiting the local community and environment. An enhanced public transport system will in time help to persuade drivers to leave their cars at home.

Key Actions

51. Support, encourage and facilitate public transport infrastructure projects to provide a cost effective and attractive alternative to the car.
52. Encourage, develop and support integrated transport hubs to allow seamless interchanges between different modes of transport, centred on the London Underground and DLR stations.
53. The Council will actively work with London Underground, the SRA and TfL to bring forward the construction of the East London Line Extension by 2006 and work with the CrossRail joint venture to establish a preferred scheme for the Eastern section of Crossrail.

Air Quality Impact: High

Large public infrastructure projects are very expensive and take a long time to come on line. However, when they are completed they can have a massive effect in reducing the amount of cars on the roads. This may in turn reduce the amount of pollution in the local environment.



Maritime, Ports and Waterways

The River Thames flows along the southern boundary of Tower Hamlets and the River Lea flows along the eastern side. There are also a number of navigable docks and canals in the borough.

These waterways are used to move bulk materials around and through the Borough but, there is potential to use them more. The use of the River Thames as a freight movement corridor is recognised in the Mayor's Air Quality Strategy. Policy 20 states "The Mayor encourages the use of the River Thames and London's other navigable waterways for freight, consistent with their roles for leisure use and as ecosystems".

The River Thames can provide sustainable freight access into the heart of London, which would reduce lorry movements in and out of the Borough.

The River Thames can provide sustainable freight access into the heart of London.

The Council's UDP identifies that using road vehicles for transporting bulky construction materials has negative environmental impacts including noise, dust and roadside pollution and therefore encourages use of the river or rail instead. Policy T26 states:

"that the maximum feasible use of the waterways for the movement of freight and bulky materials will be encouraged".

The River Thames and use of the Docks has proved a particularly successful way of bringing in substantial amounts of construction materials and removing vast amounts of spoil from the Canary Wharf development. This has minimised community disturbance and environmental damage. By using the river and reducing lorry movements, it will lead to improved air quality as well as reduced noise levels, dust nuisance, road damage and local congestion.

Canary Wharf's experience has shown that an average of 4000 tonnes of excavated material taken off site by barge each day is

equivalent to 200 lorry loads of material. By using the river, 400-lorry movements are kept off local roads each day, effectively reducing the environmental impact and local disturbance. The use of two on-site concrete batching plants, supplied by river, has also helped to reduce lorry traffic by an additional 70 lorry loads per day.



By continuing to use the river, Canary Wharf is utilising a major transport resource that is more sustainable than the conventional approach of carrying freight in lorries. Canary Wharf has demonstrated the viability of the river as a sustainable mode of transportation.

The Council supports the increased use of the River through the UDP.

The future use of the waterways in the borough for the movement of bulk material is dependent on improving docking and material-handling facilities, which involves considerable cost implications.

The Council supports the increased use of the River through its UDP, particularly policy T26, where the maximum feasible use of the waterways for the movement of freight and bulky goods will be encouraged for new developments.

The River Thames is a valuable public transport resource, which is presently underused. An increase in the use of the river for commuting traffic is supported by the Council's UDP policy T4. Through careful planning and communication between all Agencies, this service can be fully integrated with other local modes of public transport, including Bus, Underground and DLR.



Key Actions

54. To support and encourage an increase in the use of the River Thames as a freight corridor for Tower Hamlets and the centre of London.
55. To actively support the movement of freight in and out of the Borough by water.
56. To work closely with TfL to identify options for increasing the use of waterways that run through the Borough.



Air Quality Impact: Medium

Reducing the amount of heavy lorry movements will have a medium impact on air quality locally, in addition noise disturbance, road damage and congestion would also be reduced. The public perception of using the River as a sustainable mode of transport is positive. Increasing the number of lorries on local roads for major new developments is not sustainable. If a larger proportion of heavy or bulk goods could be moved using the River Thames and other navigable bodies of water there would be a positive impact upon the Borough's local environment.

Air Transport Infrastructure

London Stansted and London City Airports play a role in supporting regeneration in the Lea Valley and Thames Gateway.

There are no airports in Tower Hamlets but the Council has considered the future development of air transport in the South East of England and its local impact over the next 30 years, consulting with the Department for Transport. It is predicted that the number of passengers in the South East is predicted to increase from 181 million to 301 million by 2030.

The Council recognises that London Stansted and London City Airports play a role in supporting regeneration in the Lea Valley and Thames Gateway. Here, local partnerships are working to secure convenient transport links for businesses, increase attractiveness of the area and to create jobs. The Council is working closely to deliver sustainable transport links to both airports and welcomes the extension of the Docklands Light Railway to London City Airport.

As the airports expand there is likely to be a negative impact on air quality and environmental noise. Air travel is not a sustainable transport option because of the relatively low ratio of payload to high use of fossil fuel and production of air pollution.

The Department for Transport is considering locations for developing a hub airport in the Southeast. Options include expanding an existing airport such as Stansted or to construct a new, purpose-built airport at Cliffe in North Kent. Cliffe has sufficient land availability, surface links with London and other areas, relatively few people affected by aircraft noise, potential for 24-hour operation and is the preferred option of the Thames Gateway London Partnership because of regeneration opportunities. Their second preference is to expand Stansted.

However, concern exists that the new flight paths may introduce noisier aircraft and consequently cause complaints from residents. The Borough would also be faced with a challenge or threat in terms of air quality from aircraft and increased road traffic on route to the airport through the Blackwall Tunnel.

Stansted can handle up to 15 million passengers and additional runways could significantly increase capacity to over twice this number. New rail links and expansion of the M11 would be required, increasing air pollution levels from aircraft and road traffic significantly.

London City Airport is likely to expand rapidly to 2030 raising terminal capacity to 5 million passengers per annum. Newham Council has concerns regarding the impact of any growth above this level on reducing air quality from aircraft and increased onsite and offsite traffic. Similar concerns have also been expressed about the expansion increasing noise levels.

At Heathrow Airport, the completion of Terminal 5 is planned for 2008. The new public transport links may reach as far as Tower Hamlets through CrossRail and a proposed Airtrack scheme.

Airports are a major generator of transport demand that must be catered for by excellent public transport links to offset unsustainable road traffic generation. Consequently excellent rail links are essential. To achieve this it will be necessary to ensure that local services are not sacrificed for longer distances and more profitable journeys, particularly where train paths are in short supply. There is a need to provide for rail travel to and from the airport for air passengers and workers, commuters, local leisure trips and to reduce current levels of overcrowding.

Bethnal Green is served by West Anglia services to Hertford East, Enfield Town, Cheshunt and Chingford and Cambridge Heath by services to Enfield Town. Both stations are on the route of the Stansted Express. Local rail passengers must not be disadvantaged as capacity demand increases with airport growth. Stansted Airport does generate substantial inward investment and is contributing to the growth and regeneration of the Lea Valley.

However, local links to the airport are poor, other than the dedicated Stansted Express from Liverpool Street via Tottenham Hale. The airport increasingly attracts the labour force from north and north-east London, which needs to be reflected in improved public transport connections. A significant increase in the capacity of the Lea Valley line will also be needed to give desired service frequencies on the London metro routes, regardless of whether Stansted Airport expands.

The tendency to give local services a low priority against the Stansted Express must be addressed. A more balanced approach must be sought by the Council, from the rail operator and Strategic Rail Authority (SRA).

Airport planning must be co-ordinated with the Transport strategies of Transport for London, SRA and local/regional government to ensure that plans are complementary and consistent.



Considering the projected use of Stansted and the expansion of Canary Wharf from around 40,000 employees in 2003 to 100,000 by 2006 would suggest that direct rail services to and from Stansted Airport via Stratford would significantly improve links for long-haul business travel. The increasing popularity of the Stratford to Canary Wharf route, despite the Jubilee Line extension, has led to local boarding problems, particularly at Bow Church. The DLR has responded by running short journeys from Bow Church at peak times. The proposed two to three-car expansion of the DLR will also improve capacity.

National consultation with the Department for Transport closed on 30th November 2002. The Government is proposing to produce a White Paper in 2003 setting out a 30-year national policy for airports. It is assumed that a new runway in the south-east is not likely until at least 2011.

Key Actions

- 57.** In the event of Stansted Airport being expanded the Council will lobby for a substantial increase in rail infrastructure along the Lea Valley to accommodate airport traffic and the objective of achieving a metro-frequency for local services. In addition, a direct service would be required from Stratford, for connections to Canary Wharf, to cater for airport passengers and airport employees alike and to complement the Channel Tunnel Rail Link and CrossRail.
- 58.** In the event of London City Airport expanding beyond 5 million passengers per annum, the Council would require any scheme to ensure that the DLR and rail network had the capacity to cope with additional traffic on the City Airport extension without displacing established local journeys.
- 59.** Full environmental impact assessments, pollution modelling, details of flight paths and hours of operation will be required to assess local impacts before any proposals are endorsed.
- 60.** The Council supports the opportunities afforded by a heavy rail link between Heathrow and east-London from CrossRail with interchanges at Whitechapel, and the Isle of Dogs.

Air Quality Impact: High

As airports expand there is likely to be a high, negative impact on air quality and environmental noise. Air travel is a challenge as a sustainable transport option because of the low ratio of payload to high use of fossil fuel and production of air pollution. Airports are a major generator of transport demand that must be catered for by excellent public transport links to offset unsustainable road traffic generation.



Fleet Management and Clean Fuels

Tower Hamlets's roads will continue to be congested for some time before traffic reduction measures begin to deliver noticeable improvements in air quality. New engine technology and alternative fuels are available now and can significantly help to reduce emissions from vehicle exhausts. These are also likely to deliver additional benefits in terms of noise and climate change.

Tower Hamlets Council has a large fleet of vehicles that are used to carry out a wide range of services across the Borough. This fleet is managed and maintained so as to minimise the overall environmental impact as far as possible and, in this way, we hope to lead by example.

The most recent vehicles added to the Council's fleet meet the Euro IV emissions standard.

A new contract was agreed in 2001 for the supply of vehicles to the Council with the aim of updating the fleet. All new Council vehicles are required to have a Euro III engine as a minimum. Where appropriate, they are also fitted with improved catalytic converters. The most recent vehicles added to the Council's fleet, meet the Euro IV emissions standard. The Council also has a policy stipulating that all of its vehicles are run using Ultra Low Sulphur fuel, to reduce emissions of sulphur dioxide. When buying or replacing vehicles, cleaner and alternative fuel options will be considered and used wherever viable.

The Council has already introduced the use of alternatively fuelled vehicles into its fleet. It is constantly reviewing areas where these can replace conventionally fuelled vehicles as they are a much cleaner alternative. The Council is leading by example with its Pest Control section having had seven electric vans in service since September 2001. These vehicles are ideally suited to the short journeys that their workload dictates.



Environmental Health, Environmental Protection are currently looking at replacing further vehicles with ones that can run on Liquid Petroleum Gas (LPG).

Vehicles running on alternative fuels also tend to be cheaper to run and quieter than conventional vehicles. Although they initially cost more to purchase, the costs can be offset by grants from Powershift, part of the Energy Savings Trust. The Council will investigate the options for making

use of the grants available and will seek advice from the Transport Energy Programme.

The infrastructure for refuelling with alternative fuels will also need to be expanded to encourage the purchase of the vehicles. An LPG service centre already exists in Tower Hamlets and we will aim to promote further development of the necessary infrastructure. This authority will work with the Energy Savings Trust and look at identifying potential sites for alternative refuelling.



The Mayor of London requires water diesel emulsion to be considered and promoted as an option where suitable. We support the research being carried out into this fuel and will work with the Greater London Authority with the aim of trialling it within the borough.

The Council continually reviews the use of a variety of alternative fuels that have included:

- Battery Powered Vehicles (BEV)
- Liquid Petroleum Gas (LPG)
- Compressed Natural Gas (NG)
- Hybrid Electric Vehicles (HEV)

Battery Powered Vehicles (BEV)

The advantages of BEV's is that they have zero emissions, are extremely quiet and will significantly improve local impacts on climate change.

Battery Powered vehicles emit zero pollution. If the electricity is bought from a green supply then these vehicles are truly zero emission vehicles.

As with Tower Hamlets's fleet, the vehicles can be returned to an operation centre at the end of each day for overnight charging. If a vehicle does run out of charge, it can be plugged into a domestic electricity supply.

Locally, these vehicles emit zero pollution. If the electricity is bought from a green supply then these vehicles are truly zero emissions emitters.

Liquid Petroleum Gas (LPG)

LPG can be used in an internal combustion engine and is stored as a liquid under moderate pressure. Advantages of this fuel are that emissions are much less than petrol or diesel, the fuel is considerably cheaper and the vehicles quieter. The disadvantages are principally that the vehicles are more expensive to buy, there is not the same fuel infrastructure as conventional fuels and they have a reduced range.

If LPG is used in petrol light goods vehicles, nitrogen oxides are reduced by 30% and for a diesel van by 60%, with PM10's virtually eliminated.

If LPG is used in petrol light goods vehicles, nitrogen oxides are reduced by 30% and for a diesel van by 60% with PM10s virtually eliminated.

If a bus is run on NG the emissions of nitrogen oxides are reduced by 86% and PM10s are reduced by 68%.

Natural Gas (NG)

NG can be used in internal combustion engines and can be stored on board either in a compressed (CNG) or liquid state (LNG). Natural Gas is a very clean fuel, the vehicles run much quieter and a national fuel distribution grid is established. Disadvantages are that the vehicles are more expensive to buy, there is a reduced payload space due to the size of the fuel tank and there is not a network of local distribution sites.

Natural gas produces 35% less nitrogen oxides than a petrol engine, 90% less than a diesel and PM10s are almost totally removed. If a bus is run on NG, the emissions for nitrogen oxides are reduced by 86% and PM10s are reduced by 68%.

Hybrid Electric Vehicles (HEV)

These vehicles can switch from a conventional fuelled vehicle to an electric motor depending on driving conditions. Advantages include production of less air pollution, they have the same range as a conventional vehicle and are cheaper than a BEV. Disadvantages are that they are more expensive than a conventional vehicle and there is a limited choice of vehicles on the market at the present time.

Emissions of nitrogen oxides for this type of vehicle are between 30-70% less than a conventional vehicle. There are no figures for PM10s.

We will also encourage others to consider purchasing these types of vehicles by promoting awareness of their existence, the air quality benefits and the financial incentives including the grants available towards the initial purchase costs.

The Council will also investigate the availability of funding for conversions of old vehicles to the use of alternative fuels and for improving their emissions. These may be available through the Energy Savings Trust, Powershift and CleanUp Programmes. Financial incentives may also be offered to drivers to have emission checks and carry out any necessary works as part of the Vehicle Emissions Testing Scheme.

Retrofitting vehicles with emission reducing equipment and new technology is another option that the Council is considering. The installation of particle traps and catalytic converters with a full maintenance scheme will significantly reduce polluting emissions.

Improved servicing and regular maintenance ensures that the vehicles operate at optimum efficiency, thereby also reducing polluting emissions. All vehicles are regularly serviced, the frequency depending on the type of vehicle. All HGVs weighing

more than five tonnes are inspected and maintained every six weeks. The Mayor's Air Quality Strategy proposes setting emissions criteria for Waste Collection Vehicles and we will ensure that such vehicles operating in Tower Hamlets will meet the set standards.

By improving driving style, it is possible to reduce the amount of fuel used by a vehicle, thereby reducing polluting emissions. To improve road safety for drivers, the Fleet Management Team has an agreement with the Freight Transport Association to carry out assessments of drivers of Council vehicles. It is possible that this assessment can be adapted to include elements of intelligent driving that helps to reduce polluting emissions.

In order to determine the amount that the Council's own vehicles are contributing to levels of NO₂ and PM₁₀ in the borough, we aim to develop a fleet register that will detail the emissions from individual vehicles. Information can be obtained from the MOT test certificates and servicing records. The information will also help to prioritise those vehicles most in need of replacement or that could benefit from a switch to an alternative fuel.

Key Actions

- 61.** Establish a fleet register that includes a full emission inventory for Council and contractors' vehicles.
- 62.** Promote and encourage the use of alternatively powered vehicles to all Council departments and within the local community, including improving the availability of alternative fuels in the borough.
- 63.** Develop and implement a driver-training scheme.
- 64.** Maximise the potential from grant schemes to reduce the financial burden of introducing and using cleaner vehicles and technology.

Air Quality Impact: Medium

The Council must lead, and is leading, by example to support and give confidence to the use of alternative fuels and new technology. Using cleaner vehicles demonstrates that the Council is serious about improving the local environment. It will also improve local perceptions of the Council's key role in improving local air quality and provide a catalyst for change.

Domestic and Commercial Energy and Heating

The inefficient use of energy in buildings contributes to poor air quality across London. Energy used in buildings is directly responsible for 21% of air pollutants, such as nitrogen dioxide that are released into the local environment. As pollution levels from road traffic are addressed, the percentage contribution from commercial, residential and industrial sources will effectively rise.



Ensuring that new developments are energy efficient and taking action to improve the insulation of local properties will reduce fuel use and minimise pollution from nitrogen dioxide emissions.

The Mayor of London's Draft Energy Strategy proposes a hierarchy for considering measures aimed at reducing energy use. The Council's Energy Efficiency Unit provides information and advice to local developers as to how they can maximise energy efficiency in developments and the use of renewable technology is encouraged.

Affordable Warmth

The Energy Efficiency Unit pursues an Affordable Warmth Strategy in line with Government policy. The aims of the Strategy are:

1. To help eradicate fuel poverty (defined as occurring where a household needs to spend 10% or more of their income on fuel bills in order to maintain reasonable levels of thermal comfort).
2. To foster recognition of the detrimental effects of fuel poverty on health.
3. To help all residents reduce their energy consumption and their heating costs.

Working to reduce fuel poverty through improving energy efficiency has a positive social impact and ensures that local air pollution emissions are minimised.

Officers within Environmental Health, Environmental Protection will be helping to identify potential cases of fuel poverty within

residential accommodation and will use the Energy Efficiency Unit's Referral Scheme to ensure that residents can receive the necessary advice and information. A feasibility study is also proposed to examine the provision of air quality information on GIS, so that improvement action can be targeted in areas of poorest air quality. Air quality monitoring will then be used to identify whether improvements in air quality have resulted.

Alternative energy supply

The Government's Climate Change UK Programme sets a target of doubling the UK's Combined Heat and Power (CHP) capacity by 2010. The primary target of this programme is to reduce carbon dioxide emissions but it also means that other air pollutants are reduced, including nitrogen dioxide.

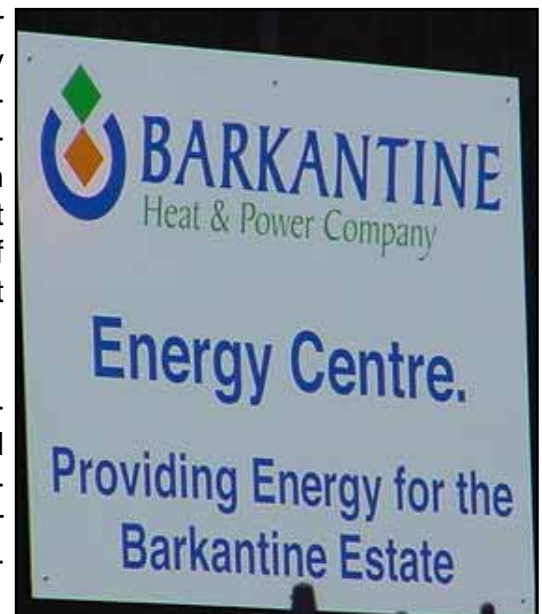
The Mayor considers that London should maximise its contribution to meeting the national target for CHP by doubling its own 2000 CHP capacity by 2010. Mixed developments including residential, commercial and leisure facilities provide the ideal characteristics for incorporation of CHP.



Tower Hamlets is at the forefront of applying this policy, as demonstrated by the Barkantine Estate CHP project. A Combined Heat and Power Unit was installed in 2001 to supply heat and electricity to over 500 homes, a primary school and the local leisure centre.

The benefits of this scheme are low cost heating for the residents with the option of low cost electricity (guaranteed to be 20% lower than the average lowest market prices), reduced nitrogen dioxide emissions and approximately 2,500 tonnes fewer carbon dioxide emissions each year. The latter is the result of an efficient communal heating scheme instead of individual gas boilers and the cogeneration of heat and electricity from a single gas supply.

Four other sites are being examined for their potential to introduce CHP based communal heating and developers proposing works in the vicinity of existing CHP schemes will be encouraged to consider taking heat from these schemes, rather than constructing their own separate boiler plants.



The Council is helping to promote the use of solar energy via the Solar for London Project - a grant scheme offering large discounts on the cost of solar water heating. The Energy Efficiency Unit itself arranged for the installation of solar water heating at Hugh Platt House, an elderly persons residential block and is keen to promote solar water heating in other properties.

Boiler Replacement

The Council's Energy Efficiency Unit EEU is encouraging the replacement of domestic boilers with new high efficiency condensing boilers and can advise on grants to assist with the marginal extra cost of these boilers. The EEU can also offer residents of Tower Hamlets an interest free loan for new heating, boilers and controls through their East End Energy Savers Scheme.

Key Actions

- 65.** Encourage, support and develop Combined Heat and Power Schemes.
- 66.** Work towards reducing fuel poverty across the Borough through the implementation of the Affordable Warmth Strategy .
- 67.** Review the use of GIS to target action in areas of poorest air quality.
- 68.** Support and promote the replacement of more efficient domestic boilers.
- 69.** Offer advice and act in a consultancy role to developers.
- 70.** Encourage, support and develop initiatives, which promote the uptake of new alternative sources of energy.

Air Quality Impact: Medium

As pollution from road traffic reduces, the percentage contribution from commercial, residential and industrial sources will rise. Local energy saving initiatives may have a medium effect in reducing air pollution, currently masked by extensive traffic pollution. The impact will be most effective where action can be targeted to areas with poor air quality. Implementing energy efficiency measures borough wide will become more important in the long term, especially as the Government introduces measures to address climate change.

Industrial Sources

The Environmental Protection Act 1990 places a statutory duty on local authorities to control air pollution from a range of small to medium size industrial processes and the larger petrol stations in the borough. It also introduced a system of Integrated Pollution Control under which large-scale industrial processes are regulated by the Environment Agency.

Tower Hamlets currently regulates emissions from 15 industrial processes and 20 petrol stations.

Certain industries must apply for an Authorisation to operate. This sets out a series of conditions with which the process must comply in order to minimise emissions to air. The local authority carries out regular inspections of the premises to ensure that it operates in line with the authorisation and industry best practice. The local industry consists of 5 solvent processes, 1 fat refining process, 3 cement batching, 3 concrete crushing, 1 timber process, 2 metal processes and 1 power plant.



The pollutants of concern for this Action Plan are nitrogen dioxide and fine particulate matter (PM10). Local industrial processes are inspected twice a year to ensure pollution control measures are operating effectively. The main processes that contribute to dust emissions are the concrete batching and crushing industry. It is proposed to have an increased monitoring and control regime to ensure effective dust controls are in place and operational.

The Council will build on the existing relationship with the operators to ensure the aims and objectives of the Council's Action Plan are clearly understood, as is their important contribution. Complaints of dust emissions will receive a rapid response and the Council's enforcement policy will be made clear, reflecting the importance of local dust control within the Air Quality Management Area.

All Authorisations are renewed annually and any upgrades required will be progressed as a service priority. New regulations will require the conditions for all industrial processes to be reviewed over the next few years and a "Permit" issued instead. This is a rolling programme with different deadlines being set for the different industrial sectors. Larger industries with a greater potential to pollute will fall into a category that requires stricter controls applying to a range of media.

We will conduct the reviews and issue permits for all processes within the borough by the relevant deadlines. Air quality information and emissions data for the processes are kept on a public register and this will continue to be updated and maintained. Through the system of controls laid down in the authorisations/permits we will seek to ensure that processes do not contribute significantly to air pollution episodes in Tower Hamlets.

Key Actions

- 71.** Carry out risk assessments on all industrial processes and inspect them at a frequency relevant to their risk of causing air pollution.
- 72.** Develop an enhanced working relationship with industrial operators at processes that have the potential to release significant amounts of dust locally.
- 73.** Provide a rapid response to dust complaints arising from Authorised Industries.
- 74.** Review Authorisations to operate, progressing upgrading programmes as a priority.

Air Quality Impact: Low

The additional impact of pollution arising from the relatively small amount of industry in Tower Hamlets is likely to be low overall but will be visible to the local community. It is important that industrial processes are effectively regulated to instil public confidence in the Council's aim to improve local air quality.

Construction

In Tower Hamlets, particularly London's Docklands, a massive regeneration programme has been underway for some time. Construction activities have significant environmental impacts both from individual sites and cumulatively where sites are located close together.

Construction sites across the Borough are significant sources of dust and PM10 particles. Dust-generating activities include demolition, spoil removal and construction work. Diesel powered plant, machinery and delivery vehicles emit PM10 and NO₂, contributing to local air pollution levels.

There is a gap in research and guidance concerning the significance of pollution from the construction industry locally and nationally. Through funding and officer time, Tower Hamlets Council actively supported the Building Research Establishment (BRE) in the development of national guidance following an intensive pollution monitoring and research project.

Tower Hamlets has produced guidance for developers for minimising the environmental impact from construction. Planning Officers are referencing the code of construction practice in the UDP and, with the Environmental Health, Environmental Protection Division, are developing standard planning conditions and informatives.

For major sites requiring Environmental Impact Assessment, Environmental Health Officers meet monthly with the main contractor to ensure effective environmental monitoring and control is in place and recorded for regular review. At the same time the significant issue of noise disturbance is addressed, complementing the process.

The aim is to prevent dust from arising or to capture it at source. However, dust from construction sites can be controlled by damping with sufficient water and controlling mud and dust on roads from spoil removal vehicles. Re-suspension of dust from





roads, local congestion and emissions from HGV's contribute to air pollution levels. On large development sites such as Canary Wharf, lorry movements may be as much as one per minute.

Construction works on a massive scale are likely to continue until at least 2015 and probably beyond. If the Crossrail project takes place it may involve extensive tunnelling, spoil removal and lorry movements. The planning process

and early consultation is the key to minimising the environmental impact locally. A construction code of practice will be specifically developed involving neighbouring boroughs and best practice will be used from the design through to the construction phases.

The Council is assessing whether formalising a dedicated team for the task is a feasible option. This mirrors the dedicated team of Council Officers in Planning Services with support from the Environmental Health, Environmental Protection Division and Transport Planning. This team was set up in 2001 to monitor and control the environmental impact from a £1 billion redevelopment of the Millennium Quarter that involves 13 separate developers in London Docklands.

Planning conditions and Section 106 Planning Agreements have been used to secure Environment Management Plans, addressing dust (PM10) and NO₂ concerns. In doing so, it has been identified that there is a gap in UK legislation that makes it very difficult to legally address the issue of controlling cumulative environmental impact. At present, cumulative impact from numerous sites cannot be effectively addressed using existing Environmental Protection legislation.

The level of dust control and enforcement activities is in need of review following the declaration of the Air Quality Management Area. A re-prioritisation of current resources is likely to be required as additional resources are unlikely to be available.

A bid for Supplementary Credit Approval for four PM10 monitors

was made to Government in 2002-2003 to specifically monitor air pollution from construction around the Millennium Quarter in Docklands but this was turned down. The locations of existing monitors will, therefore, be reviewed to maximise their potential and further monitoring will help to supplement the data. The Council is keen to research the issue of PM10 levels around construction sites, particularly as it contributes to the decision to designate the whole borough an AQMA. The Council will seek to incorporate the results into further modelling and assessments of air quality in the borough.

Key Actions

- 75.** Incorporate the Council's Code of Construction Practice into the UDP, supplementary guidance, Section 106 agreements, standard conditions and information for Planning Applications consent in respect of major developments.
- 76.** Meet monthly with major developers, having submitted Environmental Impact Assessments at the planning stage, to review and assess dust control measures.
- 77.** Map major developments on GIS and identify sites in areas of the borough with PM10 levels above national objectives.
- 78.** Review enforcement policy for dust control from construction sites operating within the Borough and provide a rapid response to complaints of dust nuisance.
- 79.** Ensure Planning Application consents include dust control measures for small, medium and large developments.
- 80.** Review locations of existing PM10 monitors to include areas around major construction sites.
- 81.** The Council to continue supporting the BRE in developing national guidance.
- 82.** Lobby Government to review legal powers available for addressing cumulative environmental impact of PM10 and NO₂.

Air Quality Impact: Medium

The environmental impact of large construction sites and the numerous small to medium sites is significant and sustained across the borough. The local impacts of large sites are significant and cumulative. It is important that pollution from construction sites is effectively regulated to instil public confidence in the Council's aim to improve local air quality.

Smoke Control and Nuisance Policy

Tower Hamlets has been a Smoke Control Area for many years using statutory provisions within the Clean Air Act 1956 and only smokeless fuel is permitted to be sold in the borough.

In such a built up area, bonfires are discouraged especially on commercial sites where commercial disposal of waste is the best option. The Council has a statutory duty to investigate and resolve smoke nuisance as detailed within the Environmental Protection Act 1990. Statutory duties imposed by the Clean Air Act 1993 are used to investigate and control bonfires especially black smoke emissions from burning waste such as tyres on scrap metal sites.

In Tower Hamlets there are relatively few complaints of smoke nuisance and Environmental Health Officer's proactively seek out the source of smoke whilst carrying out their other statutory duties.

Dust nuisance primarily arises from construction and regulated industry. Complaints are investigated reactively by area based staff.

There is scope for raising the importance of proactive work and reviewing the enforcement policy now that an Air Quality Management Area has been declared.

Key Actions

- 82.** Review enforcement policy for smoke and dust control in Tower Hamlets.
- 83.** Consider the feasibility of inspecting retail outlets to ensure only smokeless fuel is sold.
- 85.** Provide a rapid response to complaints of bonfires, smoke or dust nuisance.

Air Quality Impact: Low

Bonfires, smoke and dust nuisances are currently effectively controlled within Tower Hamlets. Current levels of service delivery must be maintained to police the borough and reinforce public confidence in the Council's aim to improve local air quality.

4 The Action Plan

Introduction

The Air Quality Action Plan for the London Borough of Tower Hamlets consists of 85 actions which cumulatively will make a positive difference to the lives of all who work, visit and live in the Borough.

The Air Quality Action Plan for the London Borough of Tower Hamlets consist of 85 key actions

These 85 actions have been assessed and prioritised using a number of criteria. From this it is possible to identify ten key actions as well as categorise all the proposed actions in the plan.

Prioritising Options

The aim of the scheme is to prioritise which of the air quality improvement options available to the Council are likely to produce the best benefits for the community.

It is essential that the Action Plan is achievable, realistic and that efforts are efficiently and effectively targeted as the level of resources available to the Council is finite.

Each group of options available has been given a high, medium or low assessment for air quality impact, non-air quality impact including perceptions and practicality and cost.

Each assessment has been carried out by a small team of specialist Environmental Health Officers who act as expert advisors to the Council on air quality issues. The decisions have been reached following national guidance that requires a basic cost effectiveness assessment to be made for each Key Action of the Action Plan.

The following classification scheme has been used to carry out a cost-effectiveness assessment of identified actions:

Air Quality Impact

The Air Quality Impact of key actions range from high for those that are essential to contributing to significant improvements in air quality, to low impact measures that will contribute to a net improvement.

(3) High	The impact is significant and may be key to successfully achieving the Action Plan objectives.
(2) Medium	The impact is important and the benefits are clear.
(1) Low	The impact is not significant alone but, together with other low impact measures will provide a net improvement.

Non-Air Quality Impact/Perceptions and Practicality

The non-air quality impact includes perceptions and practicality and introduces a rating of high, medium to low. This ensures that key actions are assessed for local acceptability. For example, A key action which proposes to close a major through-road is likely to be considered uneconomical and socially unacceptable.

(3) High	Action is practical, perceived as an improvement, improves safety and may address social exclusion. Noise levels will reduce and climate change is positively addressed.
(2) Medium	Action perceived as having an improvement recognising the level of disruption, may affect business and begin to raise issues of equity. Noise levels may improve and may improve climate change.
(1) Low	Perceived as disruptive, social exclusion a possibility, few additional benefits for noise reduction or climate change.

Affordability

The cost of key actions must be considered for schemes to be viable and a source of funding identified. It would not be feasible to include options for major infrastructure improvements in the Action Plan without having secured funding or preparing a bid from a realistic source. Each of the key actions identified have been allocated an affordability rating of high, medium or low. The high rating means a key action is affordable and no extra funding is required and a low rating means extra funding is required to complete a key action.

(3) High	Internal cost is covered for officer time or external by the polluter paying for regulatory enforcement. The cost can be incorporated into existing budgets and is less than £2,000.
(2) Medium	Additional funding is required but can be incorporated into existing budgets with forward planning.
(1) Low	Additional funding is required that cannot be incorporated into existing budgets.

A cost effectiveness appraisal can then be carried out on proposed actions by applying the formula:

$$\text{Air Quality Impact} \times \text{Non-Air Quality Impact} \times \text{Affordability} = \text{Cost Effectiveness}$$

By applying this formula the Council has been able to prioritise the actions that best deliver air quality improvement from a range of low cost high impact (Highest priority score 27) to high cost low impact (Lowest priority score 1). It is anticipated that most of the actions will be carried out with efforts focused on the low cost high impact actions. Low cost, low impact proposals will still be considered, because the combined effect will reduce air pollution levels.

Ten Key Objectives

1. Monitor air quality to measure the success of our actions over time.
2. Use a Geographical Information System to map trends and target areas for improvement, and fully integrate this into the decision-making process for the Council's key development strategies.
3. Actively support and take part in the London Wide Vehicle Emissions Testing Scheme.
4. Use Controlled Parking mini-zones to target congested parking around tube stations and bordering the Central London Congestion Charging Zone.
5. Implement a comprehensive Streetscene programme to improve the street environment in Tower Hamlets. This takes a targeted approach to implementing Home Zones in residential areas, improving street signage and removing street clutter, improving safety for cyclists and improving the pedestrian environment.
6. Lead by example using a small fleet of electric vans for Pest Control within the Environmental Health, Environmental Protection Division.
7. Develop Supplementary Planning Guidance for Planning Applications, requiring submission and approval of air quality assessments for major developments before developments can commence.
8. Support and facilitate the development of major transport infrastructure improvement projects in the borough including CrossRail and the two to three car expansion of the Docklands Light Railway.
9. Support the development and implementation of a Low Emission Zone for London.
10. Establish a Council Vehicle Fleet Register with a full emissions inventory for Council and Contractors' vehicles together with an emissions improvement programme.

The Action Plan Listing

Key for Action Plan Table Responsibility:
 EH Environmental Health, Environmental Protection
 EEU Energy Efficiency Unit
 P Parking Control
 PS Planning Services
 TP Transport Planning
 ONG...On Going
 New actions are denoted by red text

Key Action Number	Action	Air Quality Impact	Non Air Quality Impact	Cost	Cost Effectiveness	Timescale (end of yr.)	Responsibility
Monitoring Air Quality							
1	Provide and update air quality information on GIS and distribute to strategic policy makers within the borough, London and Government.	2	3	3	18	2003	EH
2	Identify pollution trends and areas of high air pollution, prioritise and bring to the attention of targeted individuals and organisations.	2	3	3	18	2003	EH
3	Provide accurate information to the Mayor and GLA for research purposes.	2	3	1	6	ONG	EH
4	Provide on-line information to the website for public information. Develop user friendly interrogation systems to ensure the public can find out local air quality levels by entering their postcode.	2	3	2	12	2004	EH,TP
5	Continue to manage the Council's air pollution-monitoring network and bid for resources from Government annually for support, maintenance and development.	2	3	1	6	2003	EH
Roadside Emissions Testing							
6	The Council will actively support and continue to take part in the London-wide Vehicle Emissions Testing Scheme.	2	3	3	18	2003/ONG	EH
7	The Council will assist the ALG in implementing the scheme locally.	2	2	3	12	2003	EH
8	The Council will make its air quality information available on GIS. This will detail hotspots for NO2 and PM10 allowing action to be targeted and thereby maximising effectiveness.	2	3	3	18	2003/ONG	EH
9	The Council undertakes to publicise the scheme in its local paper, East End Life, delivered to every resident in the borough. A co-ordinated campaign will be undertaken to complement the Mayor's London-wide publicity for testing and routine maintenance of vehicles.	2	3	3	18	2003/ONG	EH
10	Publicise and promote awareness of the Smoky Vehicle Hotline to allow members of the public to report badly polluting vehicles	2	1	3	6	2003	EH
Planning Policy and Control							
11	Supplementary Planning Guidance will be produced. The SPG will outline when an air quality assessment will be required with a Planning Application. It will also provide technical guidance on how to carry out an air quality assessment, including guidance on how to assess the impacts and appropriate mitigation.	3	3	3	27	2003	PL
12	Standard planning conditions will be developed to control air pollution emissions before and after construction. These will particularly focus on developments that do not require pollution control permits under any other legislation, that generate increased traffic flows or are not located in close proximity to public transport.	3	3	3	27	2003	PL
13	A review will be carried out to research and develop the successful use of Section 106 of the Town and Country Planning Act 1990 for setting 'planning obligations' to reduce local air pollution impact.	3	3	3	27	2004	PL
14	Current policies that refer to air quality in the UDP will be formally reviewed. The UDP will in future take full account of the Air Quality Action Plan in prioritising land use and review the use of planning control mechanisms available to the Council to achieve sustainable development.	3	3	3	27	2004	PL
15	Use GIS air quality information to prioritise areas for planning control.	3	3	3	27	2003/ONG	PL EH
Physical Traffic Management: Speed and Flow							
16	Seek to encourage improved management and control of traffic entering and circulating the Gyratory at Aldgate East, working towards its eventual removal and the introduction of a two-way system.	2	2	1	4	2004	TP/TFL
17	Impose a 40mph speed limit on the section of A12 running through Tower Hamlets to attempt to balance air quality and safety.	3	2	2	12	2003	TP/TFL

Key Action Number	Action	Air Quality Impact	Non Air Quality Impact	Cost	Cost Effectiveness	Timescale (end of yr.)	Responsibility
	Routing Traffic and Road Hierarchy						
20	Provide comprehensive and accurate local information to the Mayor and the GLA for use in reviewing the London's road hierarchy.	2	2	2	8	ONG	TP
21	Ensure that Planning Officers are fully updated with road hierarchy information for the review and development of the UDP.	2	2	2	8	ONG	TP
22	Work together with Planning Services and the Environmental Health, Environmental Protection Division to review land use along Local Distributor Roads having regard to levels of air pollution and use of planning controls to improve traffic flow.	2	2	2	8	ONG	TP PL EH
	Street Signage, Street Environment and Homes Zones						
23	Establish a transparent rationale for signage throughout the Borough, enabling the community and visitors to efficiently and effectively travel through the Borough using clear directions to public transport connections and attractions.	2	2	2	8	2004	TP
24	Continue with implementation of the Streetscene programme and bid for funding for further programmes.	2	2	2	8	ONG	TP
25	Complete the first and begin the second phase of the Home Zone programme in prioritised areas of the borough, using air quality information on GIS in the decision making process.	2	2	2	8	2003/ONG	TP
26	Improve the street environment by restricting and calming traffic in residential areas and shopping streets to restrain the unnecessary use of private cars in order to achieve a more balanced allocation of road-space between users.	2	2	2	8	ONG	TP
	Parking Management and Control						
27	Work closely with TfL to ensure the disparity between on-street parking control and parking on red routes is resolved.	2	2	3	12	ONG	P
28	Regularly review parking fees and charges and increase levels where necessary to deter unnecessary car use.	2	2	3	12	Annually	P
29	Consider implementing mini-zones to target acute parking stress on the congestion charging fringe and around underground stations to encourage use of the underground in preference to the car.	2	2	2	8	2004	P
30	Air quality information from the Environmental Health, Environmental Protection Division will be provided on GIS, so that it can be taken into consideration when determining necessary levels of Parking Control.	2	3	3	18	ONG	PEH
31	The Council will examine the possibility of giving a discount on parking permits to owners of alternatively fuelled vehicles.	2	3	3	18	2004	P
32	Parking Control will work closely with Planning Officers and Environmental Protection to identify areas of the borough where new developments should be car free.	2	3	3	18	2003	PEH PL
	Encouraging Local Cycling						
33	Continue to promote the use of and improve the facilities around the borough for cycling.	2	2	2	8	ONG	TP
34	Continue to liaise with cycle groups and schools in order to fund training and support initiatives.	2	2	2	8	2003/ONG	TP
35	Promote the use of electric bicycles and provision of secure storage for short trips around shops, the workplace and public transport interchanges.	1	2	2	4	2003	TP EH
36	Increase the priority given to road transport improvement by the police to make roads safer for cyclists.	2	2	2	8	ONG	TP
	Encouraging Walking						
37	Implement and support the walking strategy for the borough.	1	2	2	4	2003/ONG	TP

Road Transport Promotion, Education and Awareness Raising							
41	Provide comments on and contribute to the formation of proposals that seek to promote green travel on a London-wide basis.	1	2	2	4	ONG	TP
42	Continue to participate in and to seek community involvement in London-wide initiatives to inform decision making on travel choice, considering the local environment.	2	2	2	8	ONG	TP
Low Emission Zones							
43	Work closely with the Mayor and GLA to publicise the results of the feasibility study and raise local awareness through the local Council newspaper, East End Life, delivered to every home in the borough.	2	2	2	8	ONG to 200	TP EH
44	To work with the Mayor, the GLA and other London boroughs on establishing the proposed London-wide LEZ and providing assistance on its enforcement.	2	2	2	8	ONG	TP EH
Road User Charging							
45	None at present						
Urban Traffic Control System (UTCS)							
46	Continue with the monitoring and review of traffic signals to optimise signal timings to achieve the best balance for traffic flow and pedestrians.	2	2	2	8	2003/ONG	TP/TFL
47	Assist with the development of the London Bus Initiative (SVD) implementation highlighting local areas of bus congestion and where local air pollution levels are highest.	2	2	2	8	2003/ONG	TP/TFL
Reallocated Road Space							
48	Contribute to reviews of bus and cycle lanes across the borough, giving particular consideration to areas where air quality is poorest.	2	2	2	8	ONG	TP/TFL
Public Transport Initiatives - Bus							
49	Work with bus operators to improve bus accessibility so that low floor accessible vehicles provide 75% of annual bus journeys (km) and 75% of low frequency routes depart on time.	2	3	2	12	ONG	TP
50	Work with the other London boroughs to implement schemes to seek improvements on efficient running on TfL roads including road space allocation improvement, camera enforcement, SVD and traffic signal priority as part of the London Bus Initiative.	2	2	2	8	ONG	TP
Public Transport Initiatives – Passenger Rail and Underground.							
51	Support, encourage and facilitate public transport infrastructure projects to provide a cost effective and attractive alternative to the car.	3	2	2	12	ONG	PL TP EH
52	Encourage, develop and support integrated transport hubs to allow seamless interchanges between different modes of transport, centred on the London Underground and DLR stations.	3	3	1	9	ONG	PL TP EH
53	The Council will actively work with London Underground, the SRA and TfL to bring forward the construction of the East London Line Extension by 2006 and work with the Crossrail joint venture to establish a preferred scheme for the Eastern section of Crossrail.	2	2	2	8	ONG	PL TP EH
Maritime, ports and waterways.							
54	To support and encourage an increase in the use of the River Thames as a freight corridor for tower Hamlets and the centre of London.	2	3	3	18	2004/ONG	PL TP EH
55	To actively support the movement of freight in and out of the Borough by water.	3	3	3	27	2004/ONG	TP EH
56	To work closely with TfL to identify options for increasing the use of waterways that run through the Borough.	2	3	3	18	2004/ONG	PL TP EH
Air Transport Infrastructure							
57	In the event of Stansted Airport being expanded the Council will lobby for a substantial increase in rail infrastructure along the Lea Valley to accommodate airport traffic and the objective of achieving a metro-frequency for local services. In addition, a direct service would be required from Stratford, for connections to Canary Wharf, to cater for airport passengers and airport employees alike and to complement the Channel Tunnel Rail Link and CrossRail.	3	3	3	27	ONG	TP
58	In the event of London City Airport expanding beyond 5 million passengers per annum, the Council would require any scheme to ensure that the DLR and rail network had the capacity to cope with additional traffic on the City Airport extension without displacing established local journeys.	3	3	3	27	2003/ONG	TP

Air Transport Infrastructure						
57	In the event of Stansted Airport being expanded the Council will lobby for a substantial increase in rail infrastructure along the Lea Valley to accommodate airport traffic and the objective of achieving a metro-frequency for local services. In addition, a direct service would be required from Stratford, for connections to Canary Wharf, to cater for airport passengers and airport employees alike and to complement the Channel Tunnel Rail Link and CrossRail.	3	3	3	27	ONG TP
58	In the event of London City Airport expanding beyond 5 million passengers per annum, the Council would require any scheme to ensure that the DLR and rail network had the capacity to cope with additional traffic on the City Airport extension without displacing established local journeys.	3	3	3	27	2003/ONG TP
59	Including full environmental impact assessments, pollution modelling, details of flight paths and hours of operation, will be required to assess local impacts before any proposals are endorsed	3	3	1	9	2003/ONG TP
60	The Council supports the opportunities afforded by a heavy rail link between Heathrow and east-London from CrossRail with interchanges at Whitechapel, and the Isle of Dogs.	3	3	3	27	ONG TP
Fleet Management and Clean Fuels						
61	Establish a fleet register that includes a full emission inventory for Council and contractors' vehicles.	1	2	3	6	2004 FM
62	Promote and encourage the use of alternatively powered vehicles to all Council departments and the local community, including improving the availability of alternative fuels in the Borough.	2	3	2	12	2003 FM EH
63	Develop and implement a driver-training scheme.	2	2	2	8	2004 FM EH
64	Maximise the potential from grant schemes to reduce the financial burden of introducing and using cleaner vehicles and technology.	3	3	3	27	ONG EH
Domestic and Commercial Energy and Heating						
65	Encourage, support and develop Combined Heat and Power Schemes.	2	3	1	6	2003/ONG EEU
66	Work towards reducing fuel poverty across the Borough through the implementation of the Affordable Warmth Strategy .	2	3	3	18	2003/ONG EEU
67	Review the use of GIS to target action in areas of poorest air quality.	2	2	2	8	2004 EEU EH
68	Support and promote the replacement of more efficient domestic boilers.	2	3	3	18	2003/ONG EEU
69	Offer advice and act in a consultancy role to developers.	2	2	3	12	ONG EEU
70	Encourage, support and develop initiatives, which promote the up take of new alternative sources of energy	2	2	3	12	ONG EEU
Industrial Sources						
71	Carry out risk assessments on all industrial processes and inspect them at a frequency relevant to their risk of causing air pollution.	1	3	3	9	2003/ONG EH
72	Develop an enhanced working relationship with industrial operators that have potential to release significant amounts of dust locally.	1	3	3	9	2004 EH
73	Provide a rapid response to dust complaints arising from Authorised Industries.	1	3	3	9	2004 EH
74	Review Authorisations to operate, progressing upgrading programmes as a priority.	1	3	3	9	2004 EH
Construction						
75	Incorporate the Council's Code of Construction Practice into the UDP, supplementary guidance, section 106 agreements, standard conditions and information for Planning Applications consent in respect of major developments.	2	3	3	18	2003 EH
76	Meet monthly with major developers, having submitted Environmental Impact Assessments at the planning stage, to review and assess dust control measures.	2	3	3	18	2003/ONG EH
77	Map major developments on GIS and to identify sites in areas of the borough with PM10 levels	2	3	3	18	2003 EH

Air Quality Impact by Action Category

High

- Air Quality Monitoring
- Planning Policy and Control
- Parking Management and Control
- Low Emission Zones
- Public Transport Initiatives - Passenger Rail and Underground
- Airport Measures

Medium

- Roadside Emission Testing
- Physical Traffic Management - Speed and Flow
- Street Signage, Street Environment and Home Zones
- Partnerships and Travel Plans (Workplace and Schools)
- Urban Traffic Control Systems (UTCS)
- Reallocated Road Space
- Public Transport Initiatives - Bus
- Maritime, Ports and Waterways
- Fleet Management and Clean Fuels
- Domestic and Commercial Central Heating
- Construction

Low

- Routing Traffic and Road Hierarchy
- Encourage Local Cycling
- Encourage Walking
- Road Transport Promotion, Education and Awareness Raising
- Industrial Sources
- Smoke Control and Nuisance

5 Organising the plan

Project Management

The Air Quality Action Plan will be led by the Environmental Health, Environmental Protection Division. They will be responsible for monitoring and reviewing progress towards achieving the objectives of the Action Plan. Progress will be reported to the Environment and Culture Directorate Management Team, Corporate Management Team, CPAG, Cabinet, the Mayor for London and the Government.

The Air Quality Action Plan will act as an umbrella programme that will help guide both the Council and community to achieve improvements in air quality locally.

Reporting Arrangements

For the Action Plan to be effective the reporting arrangements will need to be clear to all of those involved in its implementation.

The Air Quality Action Plan will be co-ordinated by the Environmental Health, Environmental Protection Division. Dedicated officers will gather information on each of the actions identified in the Plan from across the Council, community and London wide. This information will be reported quarterly at an Air Quality forum and the CPAG.

From experience, progress is most rapid when information is gathered from identified individuals on demand, rather than attempting to pull everyone together into one place at one time. Time is often short and attendance at meetings can prove sporadic rendering them ineffective. The key to success in delivering this Action Plan will be effective communication, one to one briefings and regular contact. A summary report of progress on all actions is proposed so that a holistic view and approach can be maintained by all involved.

Where necessary, corrective action will be identified and proposed to ensure each action is achieved. As new air quality information is discovered, targets and actions may be reviewed. Reflecting on the progress made and impact on local air quality is essential to ensuring continuous and sustainable improvement.

Reports will be provided to Environment and Culture Directorate Management Team biannually and annually to Corporate Management Team, CPAG and Cabinet. Local publicity will be publicised in the Council Newspaper, East End Life and on the Council's web page.

The statutory returns on progress will be made as per the following requirements for local authorities to provide information to the Government.

Project Resources

The majority of work contained in the Action Plan falls within the planned work and objectives of the Council's Service areas identified in the plan. What is needed at the local level is a reorientation of the priority of the work we are doing and the realisation that a co-ordinated approach will provide the most cost-effective solutions.

The majority of new initiatives rely on external funding through a variety of bidding processes to Central Government. Tower Hamlets Council has, together with the community, identified actions to help deliver air quality improvement, leading by example.

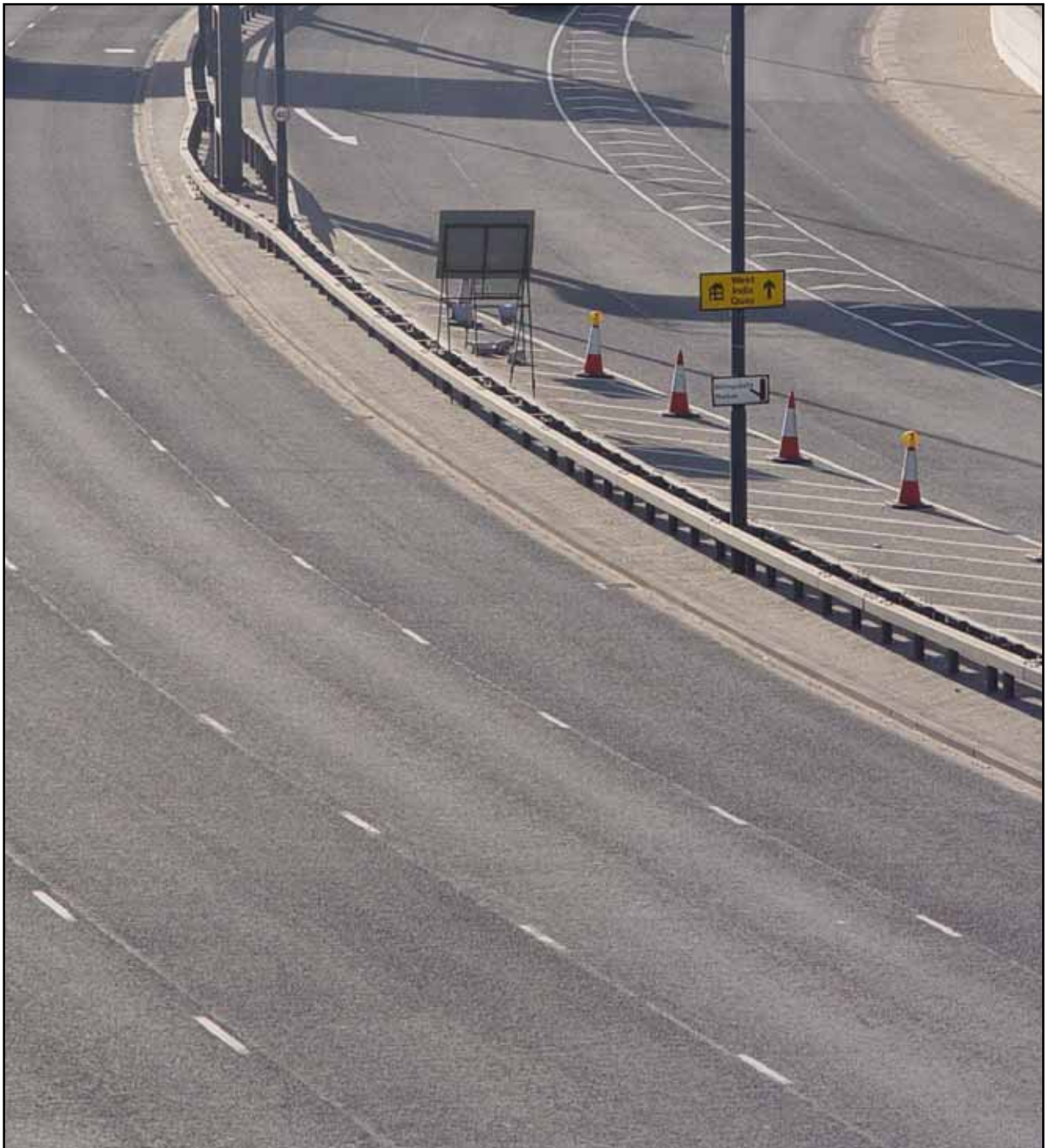
To develop and sustain the variety of Transport Planning initiatives, Air Quality Monitoring and Control, Land Use Planning, and Parking initiatives, detailed in the Action Plan, the Council expects an increased level of support and funding from Central Government. It is essential that the Air Quality Action Plan receives the full level of resourcing required to ensure that schemes planned for implementation in the short, medium and long term will succeed in their objectives.

It is the Council's experience that local authorities are not receiving sufficient resources in the Standard Spend Assessment (SSA) to address the complex issues and co-ordination of Council wide strategies necessary to address air quality improvement. The resource allocation received within the Environmental Health, Environmental Protection Division is estimated at only 20% of the actual spend level given for the new statutory requirements imposed for review, assessment, action planning, monitoring and control.

Bids for Supplementary Credit Approval are successful on an annual basis but improving the monitoring and control network has increased the level of essential on-costs that have not been matched by a release of SSA funding. It is essential that the level of resources is better targeted across London and

increased significantly to adequately fund the specialist Air Quality officers that the Council is now required to support.

Local action will add value to the London wide and national strategies but low to medium impact local solutions will only have minimal impact if insufficient resources are allocated. The success of London wide schemes, particularly improving public transport and the London Underground, facilitating CrossRail, reducing congestion and implementing a Low Emission Zone is critical for addressing air quality improvement in Tower Hamlets. Targeted action, having regard to areas of poorest air quality, will prove most cost effective.



Abbreviations

ALG	Association of London Government
AQMA	Air Quality Management Area
BEV	Battery Powered Vehicles
BGBS	Big Green Boiler Scheme
BRE	Building Research Establishment
CHP	Combined Heat and Power
CNG	Compressed Natural Gas
DAISY	Docklands Arrival Information System
DEFRA	Department of Environment, Food and Rural Affairs
DLR	Docklands Light Railway
DTLR	Department for Transport, London and the Regions
EEU	Energy Efficiency Unit
GIS	Geographical Information System
GLA	Greater London Authority
HEV	Hybrid Electric Vehicles
HGV	Heavy Goods Vehicles
LBPAN	London Bus Priority Network
LBI	London Bus Initiative
LEZ	Low Emission Zone
LPG	Liquid Petroleum Gas
NG	Natural Gas
NO ₂	Nitrogen Dioxide
PM10	Fine Particulate Matter
PPG	Planning Policy Guidance
PTW	Powered Two Wheeler
SCA	Supplementary Credit Approval
SPG	Supplementary Planning Guidance
SRA	Strategic Rail Authority
SSA	Standard Spend Assessment
SVD	Selective Vehicle Detection
TfL	Transport for London
TLRN	Transport for London Road Network
UDP	Unitary Development Plan
UTCS	Urban Traffic Control Systems
WAGN	West Anglia Great Northern

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