

Proposed London Low Emission Zone

Greater London Low Emission Zone Charging
Order 2006

**REPORT TO THE MAYOR FOLLOWING
CONSULTATION WITH STAKEHOLDERS,
BUSINESSES, OTHER ORGANISATIONS
AND THE PUBLIC**

APRIL 2007

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1 Introduction

1.1 Background

- 1.1.1 London has the worst air pollution in the UK and amongst the worst in Europe. Air pollution affects the quality of life of a large number of Londoners, especially those with respiratory and cardiovascular conditions. It was predicted that in 2005, around 1,000 accelerated deaths and a similar number of respiratory hospital admissions occurred in London as a result of air pollution. Many more people experience discomfort as a result of air quality aggravating existing conditions.
- 1.1.2 Local authorities, including the Greater London Authority (GLA), have a statutory obligation to work towards meeting national and European Union (EU) air quality objectives and limit values, which are designed to protect human health. Recent data confirms that in many places, London did not meet the annual mean objective for nitrogen dioxide (NO₂) (date for achievement from the end of 2005) nor the annual mean and daily mean objectives for particulate matter (PM₁₀) (which applied from the end of 2004). These limits apply every year and without action being taken there is an increasing risk of infraction proceedings being taken against the UK.
- 1.1.3 Road transport is a significant contributor to both these pollutants. In 2005, it was estimated to be responsible for 66% of emissions of PM₁₀ and 38% of emissions of oxides of nitrogen (NO_x) (which forms NO₂) in London¹.
- 1.1.4 PM₁₀ and NO₂ both impact on human health. PM₁₀ affects the respiratory and cardiovascular systems. It can worsen existing complaints, such as asthma, and can cause premature death. PM₁₀ can also carry carcinogenic compounds into the lungs. Long term exposure to NO₂ may affect lung function and lead to an increase in allergies. At high concentrations, NO₂ can cause inflammation of the airways.
- 1.1.5 New EU legislation on air quality is currently being debated between the European Council and the European Parliament. The proposals include limit values for PM₁₀ and NO₂. These may be based on the existing EU limit values for 2004/5, but may allow for postponement of achievement, where a member state has shown that it has taken, or is in the process of taking ambitious action, such as the London LEZ, to achieve those objectives. The proposals also address PM_{2.5} in addition to the larger particulate fraction of PM₁₀. Emissions from diesel engines are a major source of PM_{2.5}. The proposals are also likely to include a new approach

¹ Based on the London Atmospheric Emissions Inventory, GLA.

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which addresses population exposure to pollution across London, in addition to hotspots of high pollution.

- 1.1.6 In 2001, a Feasibility Study undertaken on behalf of the GLA, Transport for London (TfL), the Association of London Government (ALG), the Department for Transport (DfT) and the Department for the Environment, Food and Rural Affairs (Defra) concluded that a Low Emission Zone (LEZ) was the best approach to help achieve air quality objectives in London. By encouraging certain high-polluting vehicles to meet emissions standards to drive within London, the study found that a LEZ would reduce the concentration of PM₁₀ and NO_x in the air and thereby improve the health of people living in, working in and visiting the capital. In early 2005, TfL completed a review of the findings of the Feasibility Study, and concluded that in the absence of national initiatives, there were no alternatives to the LEZ likely to achieve the same levels of benefit in the same or shorter timeframe.

1.2 Development of the Mayor's Transport and Air Quality Strategy Revisions

- 1.2.1 The proposed LEZ in London must be in conformity with the Mayor's Transport and Air Quality Strategies. In June 2005, the Mayor delegated to TfL responsibility for preparing appropriate Revisions to his Transport and Air Quality Strategies.
- 1.2.2 TfL initially carried out an informal engagement with key stakeholders on broad proposals for a LEZ in London between July and October 2005. From October until November 2005, for six weeks, TfL consulted with the London Assembly and the Greater London Authority (GLA) Functional Bodies on draft Revisions to the Transport and Air Quality Strategies to allow for a LEZ in London. This was followed from January until April 2006 by public and stakeholder consultation on draft Transport and Air Quality Strategy Revisions. In total, almost 9,000 representations were received to that consultation. Eighty nine per cent of responses from the public and 41 per cent of responses from businesses expressed support for the proposed LEZ.
- 1.2.3 After considering the consultation responses and TfL's report on the consultation, the Mayor decided to publish his Transport and Air Quality Strategy Revisions – with modifications to the draft Revisions – on 25 July 2006.

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1.3 Development of the Scheme Order

1.3.1 Following publication of the Strategy Revisions, TfL developed detailed proposals for a London LEZ scheme and conducted an informal engagement between August and October 2006 to gain the views of key stakeholders.

1.4 Public and stakeholder consultation (Nov 2006 to March 2007)

Scheme Order Consultation

1.4.1 TfL made The Greater London Low Emission Zone Charging Order 2006 – subsequently referred to as ‘the Scheme Order’ – on 13 November 2006. A public and stakeholder consultation was carried out between 13 November 2006 and 2 February 2007 on the detailed proposals for a London LEZ as set out in the Scheme Order.

1.4.2 TfL produced a public information leaflet entitled *A chance to have your say: A proposal to establish a London Low Emission Zone*, which included a questionnaire, and which was sent to some 278,000 transport businesses, other organisations, including schools and volunteer organisations, and owner drivers across the UK. Copies were also sent to local authorities within Greater London and in contiguous counties, for distribution at public places. Additional copies could be obtained via a fulfilment centre, the TfL and GLA websites, and at other public venues. Different copies of the questionnaire were produced for public and businesses. In total some 450,000 leaflets were distributed.

1.4.3 TfL sent out an information pack to some 800 stakeholder organisations. This included the Scheme Order, an explanatory note, maps of the proposed LEZ and its boundary, a statement of the reasons for making the Scheme Order, a document including the scheme description and supplementary information and a sustainable development impact assessment. ‘Key’ stakeholders (including the 33 London boroughs, central government, the London Assembly, business groups and environmental groups) also received the following non technical summaries according to their particular organisation’s interests:

- Economic and Business Impact Assessment
- Health Impact Assessment
- Environmental Report
- Equalities Impact Assessment.

1.4.4 These documents, together with full impact assessments on the economy and business, health, environment, sustainable development and equalities, were also available on TfL’s website. TfL also arranged over

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- 40 meetings or forums with 'key' stakeholders to understand better their views on the LEZ proposals.
- 1.4.5 The consultation was supported by a full media campaign, covering radio, newspapers, roadside posters and the technical and trade press, to ensure that organisations and individual members of the public had the opportunity to respond. The press advertising included trade, specialist, consumer, ethnic and European press. A Legal Notice was also published in the *Londoner* and the *London Gazette* on 13 November. Responses could either be made via the on-line questionnaire or by filling in a postage pre-paid paper questionnaire attached to the leaflet. During the consultation period, an operator helpline provided advice to operators and others on the details of the LEZ proposals.
- 1.4.6 TfL commissioned Accent, a marketing and research agency, to carry out an analysis, both quantitatively and qualitatively, of consultation representations submitted by the public, businesses and other organisations. The full report produced by Accent is attached at Annex A.
- 1.4.7 TfL also commissioned Ipsos MORI, a market research company, to carry out an attitudinal survey representative of businesses, operators and the London public during the consultation period. The aim of this survey was to provide a sample of the opinions of Londoners, London businesses and operators who drive within the proposed LEZ boundary. The full report produced by Ipsos MORI is at Annex B. The report includes comparisons with the results from a similar survey carried out by Ipsos MORI during the Strategy Revisions consultation early in 2006.
- 1.4.8 These reports (at Annex A and Annex B) complement TfL's own analysis and consideration of the representations and objections received during the consultation. Annex D of this report provides a full analysis of TfL's consideration of points raised in representations and objections received from stakeholders.

Consultation on Scheme Order amendment

- 1.4.9 In the course of the LEZ Scheme Order consultation, it became apparent that further clarification of the classification of vehicles which were intended to be included in the proposed Scheme was needed.
- 1.4.10 TfL made clear that it was minded to recommend to the Mayor an amendment to Annex 2 to make explicit in the Scheme Order that heavier diesel engine motor caravans, ambulances and hearses which have similar emission characteristics to the already included LGV and HGV vehicles were to be included in the LEZ. These amendments would ensure that all LGV and HGV derived vehicles that emit particulate matter above

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the prescribed levels would be subject to the Scheme and ensure that the Scheme is applied in an even handed and transparent manner across all diesel engine LGV, HGV or equivalent vehicle types. Motor caravans, ambulances and hearses which are over 12 tonnes would have to comply with the proposed LEZ standards by February 2008. Those which are between 3.5 tonnes and 12 tonnes would have to comply with the proposed standards by July 2008 and those which are between 1.205 tonnes and 3.5 tonnes would have to comply by 2010. The full text of the proposed modification is included at Annex G (the Scheme Order marked up with the proposed modifications as a result of consultation) and Annex H (the table of proposed modifications).

1.4.11 TfL sent a letter detailing the reason for the amendments to the Scheme Order and the text of the proposed amendments to some 50 stakeholders who appeared to be most directly affected by the amendments. The consultation materials were also available on TfL's website.

1.5 Contents of the report

1.5.1 This report:

- gives an overview of the proposed Scheme, including design, technical and operational issues (Chapter 2);
- summarises the legislative framework and procedures underlying the proposal to introduce a LEZ in London (Chapter 3);
- explains in detail the consultation process undertaken (Chapter 4);
- provides a high level overview of the expected environmental, health, economic and equalities impacts of the LEZ (Chapter 5);
- provides a summary and analysis of the representations and objections received from members of the public, businesses and stakeholders, together with TfL's consideration of the points raised (Chapter 6);
- sets out TfL's advice on the question of whether the Mayor should call a public inquiry on the proposed scheme (Chapter 7);
- presents TfL's conclusions and recommendations to the Mayor (Chapter 8); and

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- in the annexes, provides full details of the consultation report by Accent Marketing and Research (Annex A) and Ipsos MORI's report on the attitudinal survey (Annex B). There is also a summary of the stakeholder representations (Annex C), details of stakeholder representations (Annex D), and TfL's consideration of late responses (Annex E). Annex F sets out The Greater London Low Emission Zone Charging Order 2006 as made by TfL on 13 November 2006 and Annex G sets out the Charging Order marked up with the proposed modifications as a result of consultation. Annex H sets out a summary of proposed modifications recommended by TfL as a result of the consultation.

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2 Scheme Overview

2.1 Introduction

2.1.1 This chapter sets out the main features of the proposed LEZ as consulted upon. It also outlines the procurement strategy for implementing the LEZ, should the Mayor approve the Scheme Order as well as an overview of the proposed monitoring strategy.

2.1.2 In preparing the Scheme Order, TfL has had regard to the Mayor's prepared and published London Plan, Biodiversity Action Plan, Municipal Waste Management Strategy, Ambient Noise Strategy, Culture Strategy, Energy Strategy, Economic Development Strategy, Food Strategy, Older People Strategy, Transport Strategy and Air Quality Strategy. TfL can confirm that the Order is consistent with these documents.

2.2 The key features of the proposed scheme as consulted upon






Vehicles to be included in the LEZ

2.2.1 The LEZ is designed to discourage the use in Greater London of the most individually polluting diesel-engine vehicles, which are generally heavy goods vehicles (HGVs), buses, coaches, heavier light goods vehicles (LGVs) and minibuses. Heavier HGVs would be included in the LEZ from February 2008. Lighter HGVs and buses and coaches would be included in the LEZ from July 2008. Heavier LGVs and minibuses would be included in the LEZ from October 2010. The LEZ would apply to both UK and non-UK registered vehicles. The vehicles to be included are based on European vehicle definitions to ensure a legal basis for the LEZ that applies equally to UK and European-based vehicles.

2.2.2 Table 2.1 below indicates the proposals for when each vehicle would be included in the LEZ and the minimum emission standard the vehicle would have to meet in order to drive within the LEZ without having to pay a daily charge. The LEZ scheme would be based on Euro standards, which are a set of requirements which define the acceptable limits for exhaust emissions for new vehicles bought in EU Member States.

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Table 2.1: Detail of vehicles to be included in the proposed LEZ and minimum emission standards

Vehicle type and definitions	European vehicle class(es)	Image	Proposed date of LEZ scheme implementation	Vehicle 'Euro' emission standard (for PM) ² required to drive in the LEZ at no charge
Heavier HGVs: Goods vehicles exceeding 12 tonnes (gross vehicle weight) or a vehicle with a base chassis of the same type and emissions standards.	N ₃		February 2008	Euro III for PM
			January 2012	Euro IV for PM
Lighter HGVs: Goods vehicles between 3.5 and 12 tonnes (gross vehicle weight) or a vehicle with a base chassis of the same type and emissions standards.	N ₂		July 2008	Euro III/3 for PM
			January 2012	Euro IV/4 for PM
Buses and coaches: Passenger vehicles with more than eight seats plus the driver's seat exceeding 5 tonnes (gross vehicle weight).	M ₃		July 2008	Euro III for PM
			January 2012	Euro IV for PM
Heavier LGVs: Goods vehicles between 1.205 tonnes (unladen) and 3.5 tonnes (gross vehicle weight) or a vehicle with a base chassis of the same type and emissions standards.	N ₁ – class II & class III		October 2010	Euro 3 for PM
Minibuses: Passenger vehicles with more than eight seats plus the driver's seat below 5 tonnes (gross vehicle weight).	M ₂		October 2010	Euro 3/III for PM

2.2.3 The Scheme Order which was consulted upon proposed that a small number of diesel-engine vehicles would be considered non-chargeable. These included agricultural vehicles, military vehicles, historic vehicles not used for hire or reward, non-road going vehicles which are allowed to drive

² There are two types of Euro Standards: Heavy Duty standards (denoted by Roman numerals) for engines fitted to vehicles over 5t; and Light Duty standards (denoted by Arabic numerals) for engines fitted to vehicles below 5t. Some of the vehicle types (i.e. vehicles between 3.5t and 5t), can use either light or heavy duty engines. The LEZ would allow for these types of vehicles to use engines approved to either the light or heavy duty emission standards.

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on the highway (for example excavators) and certain types of mobile crane. Non-road going vehicles typically use engines certified to different standards than road-going engines. Some of these vehicles are proposed to be 100 per cent discounted due to their unsuitability for retrofitting pollution abatement equipment, conversion to an alternative fuel, or re-engining. Emissions from some of these vehicles are addressed through other initiatives, such as the Best Practice Guidance on reducing dust and emissions from construction and demolition.

Proposed emission standards

2.2.4 The proposed minimum emission standards for a vehicle to be able to drive within the LEZ without charge are set out in Table 2.1 and are summarised as follows:

- From February 2008, a standard of Euro III for particulate matter (PM) for HGVs over 12 tonnes;
- From July 2008, a standard of Euro III/3 for PM for HGVs between 3.5 and 12 tonnes, buses and coaches;
- From October 2010, a standard of Euro 3 for PM for heavier LGVs and minibuses; and
- From January 2012, a standard of Euro IV/4 for PM for HGVs over 3.5 tonnes, buses and coaches.

2.2.5 All HGVs, buses and coaches bought new in Europe since October 2001 comply with the Euro III standard or a higher Euro standard. All new LGVs bought in Europe from January 2002 comply with the Euro III standard. All new HGVs, buses and coaches bought in Europe from October 2006 comply with the Euro IV standard.

Boundary

2.2.6 In order to maximise the health and air quality benefits of the LEZ, the scheme would cover the Greater London area as far as possible. The proposed boundary has been designed to allow vehicles to divert away from the zone should they wish, either by allowing drivers to safely turn around, or by offering a diversionary route. The LEZ would not include the M25, meaning that vehicles that do not meet the emission standards could use this route.

2.2.7 TfL recommends that motorways and trunk roads (excluding the M25) are included in the LEZ as far as practically possible. Motorways included are the M1 south of London Gateway Services, M4 east of Junction 3 and the M4 spur to Heathrow. It is not possible to include the A3113 as it forms the diversion route for traffic approaching along the A4. Under paragraph 9(7) of Schedule 23 to the GLA Act, consent from the Secretary of State for Transport is required if a trunk road or motorway is to be included in

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the LEZ and TfL is negotiating as to this consent. His approval is required on issues affecting trunk roads and motorways including where the boundary of the LEZ is drawn, the signage and enforcement on trunk roads and motorways. TfL has agreed to fund the cost of signing of the proposed LEZ, including reimbursement of the Secretary of State's costs in installing and maintaining signs. Agreement from the Secretary of State on the inclusion of trunk roads and motorways within the LEZ would be required before the Mayor could confirm the Scheme Order, which includes these roads. The negotiations are well advanced, and TfL anticipates that agreement can be reached before the date proposed for the Mayor to make his decision on the Order.

Daily charge and penalty charge

2.2.8 The LEZ would operate 24 hours a day, 365 days a year. Suspending the LEZ at weekends or public holidays would erode the health and air quality benefits of the proposed scheme.

2.2.9 A daily charge of £200 is proposed for non-compliant HGVs, buses and coaches to drive in the LEZ, and £100 for non-compliant heavy LGVs and minibuses. The levels of charge have been set to provide an economic incentive for operators to clean up their fleets, while at the same time allowing operators of non-compliant vehicles to drive within the LEZ on an exceptional basis, albeit at a cost.

2.2.10 Should an operator of a non-compliant vehicle not pay the daily charge for driving within London, then following the service of a penalty charge notice (PCN), a penalty charge would apply. This would be £1,000, reduced to £500 if paid within 14 days for HGVs, buses and coaches and £500, reduced to £250 if paid within 14 days, for heavy LGVs and minibuses.

Enforcement

2.2.11 The LEZ would be enforced using Automatic Number Plate Recognition (ANPR) cameras – both fixed and mobile – within the Greater London area which would check vehicle details against a database of compliant, non-compliant vehicles, discount and exempt vehicles and vehicles for which the charge has been paid.

Operator compliance

2.2.12 Under the proposed LEZ, operators would have a range of options available to them for making their fleets compliant with the LEZ, such as replacing or re-engining their vehicles, fitting particulate abatement equipment or reorganising their fleets so that only compliant vehicles operate within the LEZ.

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2.3 Procurement Strategy

2.3.1 It is proposed that the contractors for LEZ services would, as far as possible, be the same as those currently providing similar services for Congestion Charging. The procurement strategy for the proposed London Low Emission Zone sets out to achieve the following objectives:

- maintaining/improving the level of service for Congestion Charging for new customers of the proposed Low Emission Zone, and avoiding a break in service to the existing Congestion Charging scheme;
- achieving best value for TfL;
- securing proven technology upgrades; and
- meeting national and international legal and competition requirements.

Procurement Approach

2.3.2 There are numerous individual contracts and arrangements which go together to form the package of contracts which would need to be put in place in order to implement the proposed London Low Emission Zone. The lead-in time for each contract varies and consequently these contracts would be activated at various stages between confirmation of the Scheme and the date of implementation of the London Low Emission Zone, should the Scheme Order be confirmed by the Mayor.

2.3.3 Contracts are awarded in accordance with the applicable procurement strategy. This strategy, which is designed to meet the objectives listed above, is as follows:

- to use the contracts let competitively for the western extension of the Congestion Charging area in relation to those services which are directly applicable to the proposed London Low Emission Zone;
- to re-use and adapt for the London Low Emission Zone the core services currently undertaken by Capita and on-street enforcement services undertaken by NCP for Congestion Charging;
- to carry on using monopoly services used by Congestion Charging including those provided by DVLA, EST and PATAS; and
- to procure the monopoly services of VCA, VOSA and SMMT.

2.3.4 The current service provision of core services (Capita), on-street enforcement (NCP), enforcement infrastructure (Siemens), merchant acquirer (Barclaycard Merchant Services), European debt recovery (EDRA/EPC) and bailiffs (Drakes, Equita, CCS and DKB) is within the parameters specified in relevant service levels and recently implemented improvements should further enhance the service experienced by customers.

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- 2.3.5 The current systems used for the existing Congestion Charging scheme would be enhanced to incorporate interfaces and system capacity to handle the data produced for the Low Emission Zone. These enhancements provide for all processes and IT systems needed to operate the scheme and will be designed to work with the enforcement system. The whole system (core IT and Enforcement Infrastructure) has been specified and the implementation planned.
- 2.3.6 The Scheme Order provides for the proposed London Low Emission Zone to be introduced on 4 February 2008. This is subject to the Mayoral decision to confirm the Scheme Order in May 2007; a delay in confirming the Scheme Order would create a delay in going live with the Scheme.
- 2.3.7 The existing Combined Services Agreement and other key contracts allow for a one or two year extension to their five year term. An extension to February 2009 would allow for extended use of existing assets. The use of these systems, which are integral to the operation of Congestion Charging, is believed to be the most cost-effective option.
- 2.3.8 With a re-let in February 2009 for an enlarged Congestion Charging zone and a Low Emission Zone, services would operate for two years at a more reasonable cost to TfL than if the Combined Services Agreement were not extended beyond its current expiry date of February 2008. It would also allow the results of new technology trials to be fed into the re-let procurement.
- 2.3.9 The Combined Services Agreement will have to be re-let at the end of its term, which following an extension, is November 2009. This programme will specify, design and procure a new Congestion Charging and Low Emission Zone Operational system with contracts to design, build and test, and operate the scheme as a combined zone for the extended Central London Congestion Charging Scheme and the Low Emission Zone.

2.4 Monitoring

- 2.4.1 This section describes the main elements of TfL's planned monitoring programme for the proposed Low Emission Zone (LEZ).
- 2.4.2 The monitoring programme is managed by TfL, with independent contractors undertaking much of the data collection and analysis. Data collection began in mid 2006 and would continue during the lifetime of the LEZ should it be implemented. The monitoring programme would focus on changes within London, but would also take into account impacts outside London. The programme has been divided into the following key work packages, which are outlined below:

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- Impacts on traffic
- Modelled impacts on pollutants
- Impacts on measured pollution concentrations
- Improving understanding of health impacts
- Impacts on wider environmental issues
- Impacts on the economy.

Impacts on traffic

2.4.3 The key impact of the proposed LEZ would be to bring about a change in the emissions of affected vehicles (i.e. HGVs, buses, coaches and heavier LGVs and minibuses) operating within London. TfL would focus on measuring these changes, but would also consider changes to other vehicle types (e.g. cars and taxis).

Traffic flows

2.4.4 Although it is not anticipated that the proposed LEZ would have an impact on traffic flows, TfL would have access to traffic flow data from existing surveys within the extended Central London Congestion Charging Zone as well as additional data from a representative sample of sites across Greater London. This data could be used to identify any indirect changes in overall volumes of traffic or to individual vehicle types that may be related to the introduction of the LEZ.

Modelled impacts on pollution

2.4.5 To determine the impact on key pollutants TfL proposes to use the observed changes to vehicle emissions as inputs into an emissions inventory. TfL would use the established framework of the London Atmospheric Emission Inventory (LAEI)³ to calculate total vehicle emissions and proportions of emissions by vehicle type or geographic area. The key pollutants to model are particulates (PM₁₀ and PM_{2.5}) and nitrogen dioxide, but impacts on other pollutants such as hydrocarbons, carbon dioxide, carbon monoxide and ozone would also be considered. TfL would also aim to improve and update the assumptions in the emissions inventory, taking into account the most recent research.

³ The London Atmospheric Emissions Inventory (LAEI 2003) is a database with information on emissions from all sources of air pollutants in the Greater London area. It includes emissions data for 2003 and projected emissions for 2010. The LAEI provides the basis for air quality and emissions reduction work within the GLA Group and elsewhere

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- 2.4.6 Estimates of emissions changes would be produced annually (or more frequently, if necessary) and would be the key input to model changes in the concentration of pollutants. Modelling pollution concentrations has some benefits over relying on changes to measured concentrations as it allows the impacts of the LEZ to be quantified in a controlled way (e.g. by removing the impact of unusual weather conditions so that it isolates only LEZ-related impacts).
- 2.4.7 This would build on the assessments that have been carried out as part of the LEZ consultation process to forecast emissions and air quality impacts.

Impacts on measured pollution concentrations

- 2.4.8 It is often not practical to rely on measured pollution concentrations to demonstrate an impact of the LEZ on air quality, at least in the medium term. This is because factors such as the weather and background pollution sources from outside London can have a large influence on concentrations. However, as the UK is so well provided for in terms of the numbers of air quality monitoring sites, TfL would be able to analyse data from sites within and outside London to identify any trends. During 2006, TfL upgraded equipment at six monitoring stations by busy roads to measure particulates (both PM₁₀ and PM_{2.5}), nitrogen dioxide, ozone and weather conditions. There are now over 100 air quality monitoring sites in London. These can be viewed at www.londonair.org.uk, which is supported by the Mayor.

Improving understanding of health impacts

- 2.4.9 One of the key objectives of the proposed Low Emission Zone is to improve the health of Londoners. These benefits have been quantified as part of the LEZ consultation process and the monitoring programme would build on these findings. TfL would make use of the assessment methodology already used and where possible would update it to take into account observed traffic and air quality impacts as well as any new assumptions or research. Benefits to the health of people living outside London would also need to be taken into account.
- 2.4.10 TfL is also supporting research to look at relationships between changes to particulate composition and activity with observed trends in morbidity and mortality. Consideration would also be given to the suitability of methods such as using patient data to identify changes to incidences of diseases.

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Impacts on wider environmental issues

2.4.11 The proposed LEZ may have an impact on a variety of other environmental issues such as impacts on biodiversity, the built environment and climate. TfL considered these issues as part of the Environmental Report which supported the Scheme Order consultation which showed that these impacts are unlikely to be significant.

Impacts on the economy

2.4.12 TfL proposes using observed data on changes to vehicle fleets to help identify and quantify the potential economic impacts that are associated with the LEZ. The following areas of work would be considered:

1. Continued modelling of operator responses to the LEZ based on observed changes;
2. An overall quantification of the economic impact of the LEZ using observed data;
3. An understanding of 'background' UK trends and developments in affected sectors and businesses to allow possible LEZ impacts to be understood in context; and
4. Consideration of likely impacts (costs and benefits) outside Greater London.

Reporting

2.4.13 TfL aims to publish a series of annual reports to assess observed impacts across the areas identified above. These reports would be published in hard copy and on the internet.

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3 Legislative Framework and Consultation Procedures

3.1 Introduction

3.1.1 This chapter summarises the legislative and procedural framework for the making of, and consultation on, the Scheme Order to allow for a LEZ. It describes the powers and responsibilities of both the Mayor and TfL. It also details the various impact assessments that have been undertaken to support the consultation process.

3.2 The legislative background

3.2.1 The general duties, policies and functions of the GLA, the Mayor and TfL are set out in the Greater London Authority Act 1999 (the GLA Act), as amended by sections 199 and Schedule 13 of the Transport Act 2000. Principal amongst these are the requirements for the Mayor:

- to develop and implement policies for the promotion and encouragement of safe, integrated, efficient and economic transport facilities and services to, from and within Greater London (section 141 of the GLA Act); and
- to develop proposals and policies for implementing policies in Greater London in the 'National Air Quality Strategy' and for the achievement of the national air quality objectives prescribed in regulations made under the Environment Act 1995 in Greater London.

3.2.2 In order to introduce the proposed LEZ, revisions to the Mayor's Transport and Air Quality Strategies were considered appropriate. Between January and April 2006, TfL consulted upon a revision to these Strategies. The Mayor subsequently published the Revisions to the Mayor's Transport and Air Quality Strategies in July 2006. The same text was inserted in both Strategies. The proposals introduced by these Revisions are as follows:

- Proposal 4G.27 and 10: The Greater London area should be designated a Low Emission Zone (LEZ). The proposed LEZ would target the most individually polluting vehicles (HGVs, coaches, buses, LGVs and minibuses). By so doing it would accelerate the introduction of cleaner vehicles and reduce the numbers of more polluting vehicles driving within the Greater London area. The LEZ would be implemented from early 2008; it would require certain heavy duty vehicles (HGVs, buses and coaches) to meet a proposed emission standard of Euro III for PM, which would change in 2012 to Euro IV for PM. Should the European Commission set a new standard covering ultra-fine particles or

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PM_{2.5} TfL will consider including such a standard within the LEZ. Appropriate standards to address emissions from heavier LGVs and minibuses would also be set to take effect from 2010.

- Proposal 4G.28 (Transport Strategy) and 11 (Air Quality Strategy): Transport for London will consider further the environmental, health, economic and other impacts of the proposed LEZ when considering whether to make an order. The outcome of these investigations and other factors, including consultation results, will also be taken into account by the Mayor in deciding whether or not to confirm an order.
- Proposal 4G.29 and 12: Transport for London will continue to investigate further the options for the proposed LEZ, including the additional option of Euro IV for NO_x and the range of vehicles covered by the scheme.
- Proposal 4G.30 and 13: Transport for London will monitor and assess the performance of any London Low Emission Zone that is established, to understand the range of impacts and to inform decision-making.

3.2.3 The GLA Act gives TfL the power to create charging schemes in Greater London. The Act stipulates that this must be done by way of a Scheme Order. The Scheme Order effectively sets out the rules which apply to the charging scheme. Details of the required contents of any Scheme Order are contained in Schedule 23 of the Act which stipulates that a charging scheme must:

- designate the area to which it applies;
- specify the classes of motor vehicles in respect of which a charge is imposed;
- designate those roads in the charging area in respect of which a charge is imposed; and
- specify the charges imposed.

3.2.4 A Scheme Order was published on 13 November 2006 for consultation.

3.3 Consultation on a Scheme Order

3.3.1 Although the proposed LEZ would not be a Congestion Charging Scheme, it was considered appropriate to follow *The Guidance From The Mayor of London To Transport For London On The Procedures For Introducing, Varying, Suspending And Revoking Congestion Charging Schemes Within Greater London, February 2003* which sets out the procedures TfL should follow when undertaking consultations on a Charging Scheme Order, or a

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Variation Order. This has been superseded by *Guidance from the Mayor of London to Transport for London on charging schemes pursuant to Schedule 23 of the Greater London Authority Act 1999, February 2007*. The consultation on the Scheme Order was also compliant with this updated guidance.

3.3.2 TfL's Consultation Policy (published August 2003) and the best practice set out in its Consultation Toolkit (published August 2003), expand on the procedures in the Mayoral Guidance, with regard to carrying out transparent, comprehensive and inclusive consultations with the public and stakeholders. Moreover, TfL is committed to consultation on proposals, policies and processes at each stage of their development. TfL's consultation policy statement sets out a framework for all TfL consultations. The policy states that TfL will comply with its legal obligations to consult and sets out five principles for all consultations. Consultations will be:

- Focused and timely
- Accessible and targeted
- Informative and accountable
- Of sufficient duration to give consultees enough time to respond
- Honest and fair.

3.3.3 The purpose of the Consultation Toolkit is to set out advice and best practice for carrying out TfL consultations; that is to:

- Consult with a clear purpose
- Maximise understanding and support for TfL's plans
- Ensure value for money
- Effectively engage traditionally excluded groups
- Use a range of methods to communicate with the target audience and establish accessible and appropriate communication channels
- Consult on options
- Allow sufficient response time
- Develop a consultation strategy and develop consultation objectives.

3.3.4 These best practice guidelines were applied to the planning, implementation, analysis and reporting of the formal consultation processes associated with the LEZ Scheme Order. The duration of the consultation exceeded the suggested response time contained in the Consultation Toolkit. The duration of the extension to the consultation to allow the public and stakeholders to comment on the amendment to the Scheme Order also exceeded the suggested response time contained in the Consultation Toolkit. Chapter 4 sets out the details of the consultation activities and the communications methods employed.

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3.4 Impact Assessments

- 3.4.1 The Mayor is required by statute to ensure that in the formulation of policies and proposals to be included in any strategy, due regard is had to the principle that there should be equality of opportunity for all people. He is also required in exercising his functions to have regard to the need to promote equality of opportunity for all persons, irrespective of their race, sex, disability, age, sexual orientation or religion, to eliminate unlawful discrimination and to promote good relations between persons of different racial groups, religious beliefs and sexual orientation.
- 3.4.2 The draft Transport and Air Quality Strategy Revisions which were published for consultation in January 2006 were accompanied by an Environmental Report (part of the Strategic Environmental Assessment process) and a high level Health Impact Assessment. An Environmental Statement, published in August 2006, completed the Strategic Environmental Assessment process.
- 3.4.3 Although a formal Environmental Impact Assessment under Directive 85/337/EEC (as amended) was not legally required, TfL undertook a voluntary Environmental Report on the detailed proposals at Scheme Order stage. TfL also commissioned assessments of the Economic and Business, Health and Equalities and Inclusion impacts of the proposed scheme as well as carrying out a Sustainable Development assessment of the scheme. The full Impact Assessments, as well as Non Technical Summaries, were made available on TfL's website as part of the public and stakeholder consultation.
- 3.4.4 These assessments have been provided to the Mayor. A summary of the impacts of the proposed scheme is included at Chapter 5 of this Report.

3.5 Mayoral options

- 3.5.1 On receiving this report, the Mayor has a number of options:
- to confirm the Order with or without modifications;
 - to hold a further consultation; or
 - not to proceed with the scheme.
- 3.5.2 In addition, paragraph 4 of Schedule 23 of the Greater London Authority Act 1999 gives the Mayor the power to hold a public inquiry. This option is discussed in detail in Chapter 7.

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4 The Consultation Process

4.1 Introduction

- 4.1.1 This chapter provides details of the public and stakeholder consultation carried out by TfL on The Greater London Low Emission Zone Charging Order 2006.
- 4.1.2 The public and stakeholder consultation ran for 12 weeks between 13 November 2006 and 2 February 2007.
- 4.1.3 TfL used a variety of communication channels to maximise awareness of and participation in the consultation. As well as widely distributing a public information leaflet that was available in a range of languages and formats, the consultation was advertised through a range of channels, including radio, newspaper and outdoor advertising. In addition, consultation materials were also posted on the TfL website and publicised on the GLA website. An operator helpline with a local rate number was established by TfL and provided information to callers about the LEZ proposal and sent out leaflets throughout the duration of the consultation.
- 4.1.4 The consultation process was supplemented by a comprehensive process of engagement with stakeholders. In total there were forty-one stakeholder events that TfL attended or arranged to brief stakeholders. The purpose of this engagement was to ensure stakeholders were well-briefed on the LEZ, hear issues and concerns, answer questions and encourage responses to the consultation.
- 4.1.5 TfL also conducted a London wide attitudinal survey of operators, businesses and residents to ascertain how representative the consultation responses were.
- 4.1.6 The consultation activities were designed to meet the requirements set out in TfL's Consultation Policy and Consultation Toolkit. The 12 week consultation period was in line with Cabinet Office guidance on consultations, which applies to central government, though not to TfL.
- 4.1.7 As heavier LGVs and minibuses were confirmed as being within the scope of the LEZ proposals at the end of the consultation on the Revisions to the Mayor's Transport and Air Quality Strategies, a particular effort was made to engage with sectors that may be affected by the inclusion of these vehicles.

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4.2 Information leaflet and questionnaires

- 4.2.1 TfL produced a 21 page information leaflet entitled 'Have your say on the London Low Emission Zone', which included a questionnaire inviting businesses and the public to comment on the proposed LEZ (attached at Appendix 4).
- 4.2.2 The leaflet set out the reasons for implementing a LEZ; which vehicles would be affected; how and where the LEZ would operate; details of the proposed emission standards; details of vehicle type, definitions and implementation dates; details of the registration process; the proposed daily charge and penalty charge; information on operator compliance; details of enforcement; details of implementation; and the potential impacts of the LEZ.
- 4.2.3 The leaflet explained that the consultation concerned the detailed proposals for a London LEZ scheme and that the proposed LEZ would complement the Mayor's existing Bus and Taxi Emissions Strategies.
- 4.2.4 The leaflet also referred to the TfL website, where the consultation material distributed to stakeholders and other supporting documents were available to download.
- 4.2.5 Businesses and the public were encouraged to take part in the consultation by completing a questionnaire that formed part of the leaflet. The questionnaire asked a number of questions about the proposal. There were two types of questionnaires, one for the general public and one for businesses which were used to gather opinions and views during the consultation. The questionnaire could be returned to TfL via a Freepost address given in the leaflet. The questionnaire could also be completed and submitted online, through the TfL website.
- 4.2.6 In broad terms, the public questionnaire sought opinion on the importance of improving air quality in London; whether respondents supported the introduction of the proposed LEZ; whether the proposed boundary is appropriate; whether motorways should be included in the LEZ; whether the proposed level of charge would incentivise operators to make their vehicle compliant; whether the proposed penalty charge is a sufficient deterrent; whether respondents supported the hours of operation; whether the proposed standards for particulate matter (PM) are appropriate for the vehicle types; which vehicles should be included in the proposed LEZ; and whether respondents supported the proposed exemptions.
- 4.2.7 The business questionnaire sought much the same information, but additionally sought to gather information about the business such as the

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number of vehicles operated and how often those vehicles typically travel in London.

- 4.2.8 Both questionnaires had a free-form text box for respondents to add any additional comments on the LEZ. In addition respondents were advised that they could provide further comments by enclosing these with the completed questionnaire and returning both to the Freepost address.

Distribution of information leaflets and questionnaire

- 4.2.9 The information leaflet was directly mailed to 278,000 key personnel in transport businesses, other organisations, including clubs, schools and volunteer organisations, and owner drivers in London and nationally. Key personnel and decision makers in each organisation were identified and the covering letter was directly addressed to these personnel. A covering letter was included explaining the purpose of the LEZ proposals, and to which vehicles it would apply. Operators were invited to comment on how they thought the LEZ proposal would affect them.

- 4.2.10 In addition, 2,000 copies of the leaflet were sent to each of the 33 London boroughs to be made available to the public as they deemed appropriate. Additional copies of the leaflet were made available to boroughs as required.

- 4.2.11 A pack containing the leaflet and all the consultation materials (including detailed boundary maps) was available for public inspection at TfL Surface Transport's Faith Lawson House offices for the duration of the consultation.

Face to face leaflet distribution across the UK

- 4.2.12 During the consultation, the information leaflet and questionnaire was made available to drivers of heavy goods vehicles and coaches, to owners/drivers of heavier LGVs and minibuses and to the public. The leaflet was made available at major ports, service stations and DIY stores across the UK and at a European trade show. A promotional team handed out the information leaflet at:

- 19 motorway service stations in London, the South East, Eastern England and the West Midlands
- freight ports in Dover, Harwich and Newhaven
- 88 transport cafes on the major routes into London
- a trade show (the European Motor Show in Brussels)
- four Ikea stores in or around Greater London (Croydon, Edmonton, Thurrock and Wembley)
- 41 DIY stores in or around Greater London (Wickes, Homebase, Focus, Makro and B&Q).

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4.2.13 In total, some 100,000 leaflets were distributed across almost 160 venues.

Translated leaflets

4.2.14 The information leaflet and questionnaires were translated into 18 languages to ensure that the consultation and information on the LEZ proposal was accessible to people who did not have English as a first language. Versions of the leaflet were available on the TfL website in Arabic, Bengali, Cantonese, Czech, Danish, Dutch, French, German, Greek, Gujarati, Hindi, Italian, Polish, Punjabi, Spanish, Turkish, Urdu and Vietnamese. Versions of the leaflet in these formats, as well as in Braille, large print and audio could be obtained from a TfL call centre, which was available by calling a local rate telephone number.

4.3 Telephone helpline

4.3.1 A telephone number, 08457 22 45 77, was provided in the information leaflet, advertised on TfL's website as a helpline and made available through the print media, radio and bus advertising. A telephone number, +44 (0)1254 604 110, was also provided for people calling from outside the UK.

4.3.2 By calling the advertised telephone number, transport operators, businesses and the public were able to obtain further information on the proposed LEZ and have their queries answered.

4.3.3 The telephone number was managed by TfL's fulfilment centre, Granby Marketing Services, on behalf of TfL. The call centre operated for the duration of the consultation between the hours of 8 a.m. and 9 p.m. An answering machine service was in operation outside of these 'core' hours and at weekends. Granby's figures have shown that some 1,200 calls were made during the twelve week period of the consultation.

4.3.4 Some 2,700 leaflets were requested and sent out by the fulfilment centre over the course of the consultation.

4.4 Website

4.4.1 A specific area of the TfL website was allocated to the consultation on the proposed LEZ (tfl.gov.uk/lezlondon). The following information and documents were available:

- Greater London Low Emission Zone Charging Order 2006
- Explanatory Notes
- Scheme Description and Supplementary Information

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- Statement of Reasons
- Map showing LEZ area
- Series of detailed maps showing the proposed LEZ boundary
- Information leaflet on the proposed LEZ
- Translations of the information leaflet into 18 languages
- Business and Public Questionnaires (including a facility to submit the response online)
- Impact Assessments:
 - Economic and Business Impact Assessment and non-technical summary
 - Environment Report and non-technical summary
 - Equalities Impact Assessment and non-technical summary
 - Health Impact Assessment and non-technical summary
 - Sustainable Development Impact Assessment.

4.4.2 The figures for the 'lezlondon' part of the TfL website for the duration of the consultation are as follows:

Page views	14,619
Visits	9,471
Visitors	9,121

- Page views – represents the number of times each page was viewed. A page can be viewed several times during a single visit to the site.
- Visits – defined as an instance of viewing one or more pages of a Web site with 30 minutes or less time elapsed between each page view.
- Visitors – is a subset of visits per page since a visitor may have made several visits in a day, but is counted only once as a visitor during a calendar day.

4.5 Attitudinal Survey

4.5.1 TfL conducted an attitudinal survey during the consultation to identify respondents' attitudes and opinions towards the proposal and to assess how representative the consultation findings were. The survey took place from 3 to 31 January 2007.

4.5.2 The attitudinal survey asked similar questions to the questionnaires but also asked questions about awareness of the consultation exercise.

4.5.3 A sample size of 2,000 was chosen to give a robust set of data. The sample was split between the public (to act as a control to the consultation questionnaire), businesses and transport operators. The public sample included 1,000 Londoners, selected to be representative of Londoners as a whole and matched to the profile of adult London residents by borough,

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age, race and gender. The business sample included 400 businesses based within Greater London. The operator sample included 600 transport operators selected on the basis of whether they operated in Greater London. The results of the attitudinal survey are published in Annex B of this report.

4.6 Stakeholders consulted

4.6.1 845 stakeholders received a letter explaining the purpose of the consultation. It requested any representations or objections be sent in writing (London Low Emission Zone, Transport for London, 12th Floor, 42 – 50 Victoria Street, London, SW1H 0TL) or by email (lez@tfl.gov.uk). Each stakeholder received a package of additional information, as detailed in section 4.7 below.

4.6.2 The classification of stakeholders and the numbers consulted within each category is set out below. A full list of stakeholders is attached in Appendix 1.

4.6.3 **Government:** 372 organisations comprising the following stakeholder organisations:

- Central Government Departments (23)
- English County Councils and District Councils contiguous to London (45)
- European Government (1)
- GLA Functional Bodies and Commissions (9)
- Local Government Associations (2)
- London Assembly Members (25)
- London boroughs (33)
- London Political Representative Organisations (3)
- MPs/MEPs with constituencies within Greater London (81)
- Non Departmental Government Bodies/Executive Agencies/Public Trusts (22)
- Regional Government Organisations (6)
- UK County Councils and Metropolitan Borough Councils (122).

4.6.4 **Economic:** 192 organisations comprising the following stakeholder organisations:

- Business Representative Groups (38)
- Aviation Organisations (1)
- Bus and Coach Representative Organisations (3)
- Economic/Regeneration Partnerships (23)
- European Transport Representative Organisations (31)
- Freight/Haulage Representative Organisations (3)
- Motoring Organisations (12)
- Professional Organisations (16)

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- Think Tanks (16)
- Tourism Organisations (2)
- Trade Associations and Trade Unions (29)
- Transport Partnerships (2)
- Transport Research Groups (8)
- Utilities (7).

4.6.5 **Environment:** 22 organisations comprising the following stakeholder organisations:

- Transport and Environmental Representative Organisations (17)
- Cycling/Pedestrian Organisations (5).

4.6.6 **Health:** 133 organisations comprising the following stakeholder organisations:

- Health Organisations (16)
- Emergency Service Providers (17)
- NHS Trusts/Health Authorities within Greater London (80)
- NHS Trusts/Health Authorities contiguous to Greater London (20).

4.6.7 **Society and community:** 126 organisations comprising the following stakeholder organisations:

- Groups representing children/young people nationally (8)
- Groups representing different Black, Asian and Minority Ethnic groups nationally (58)
- Groups representing different faiths nationally (17)
- Groups representing older people nationally (6)
- Groups representing the interests of people with disabilities and mobility problems nationally (32)
- Groups representing the voluntary and community sector, including sporting associations (5).

Key stakeholders

4.6.8 A number of key stakeholders were identified and provided with an opportunity to meet with TfL representatives to discuss issues arising from the consultation.

4.6.9 The key stakeholders comprised:

- key freight and haulage representative organisations
- key transport associations
- key business representative groups
- key environmental groups
- key government and non-government health groups
- key professional bodies
- key trade associations

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- key non-departmental government bodies
- 33 London boroughs
- 6 county councils contiguous to London
- 14 district/borough councils contiguous to London
- the Department for Transport
- the Department for Environment, Food and Rural Affairs
- London TravelWatch (previously London Transport Users Committee)
- Government Office for London
- London Councils.

4.6.10 The key stakeholders were chosen because of their importance to the governance of London and the operation of the proposed LEZ and because the proposed LEZ was expected to impact particularly on them and/or their members.

4.7 Information sent to stakeholders

4.7.1 TfL prepared a standard pack of information for stakeholders which included the following documents:

- Covering letter
- Greater London Low Emission Zone Charging Order 2006
- Explanatory Note for the Charging Order
- Map of the proposed Low Emission Zone area
- Statement of Reasons for Making the Scheme Order
- Scheme Description and Supplementary Information
- Sustainable Development Impact Assessment.

4.7.2 In addition to the standard stakeholder pack referred to above, the following stakeholder groups received the following documents:

- **Key stakeholders:** Environmental Report Summary, Health Impact Assessment Report Summary and Economic and Business Impact Assessment Report Summary
- **Environment stakeholders:** Environmental Report Summary
- **Business stakeholders:** Economic Impact Assessment Summary
- **Health stakeholders:** Health Impact Assessment Summary.

4.7.3 The relevant detailed maps of the boundary were also sent to the Head of Transport in the 14 outer London boroughs and 6 contiguous county councils.

4.7.4 Instead of the standard stakeholder pack, society stakeholders and UK local authorities received the consultation information leaflet and questionnaire with a letter explaining the purpose of the consultation. The questionnaires had the same return address as that provided to other stakeholders. The social organisations questionnaire also asked questions about the organisation, as set out in Appendix 4.

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4.7.5 All stakeholders were advised that copies of the above documents together with the impact assessments and an opportunity to complete the consultation questionnaire on-line were available on TfL's website.

European Transport Representative Organisations and Abatement Equipment Manufacturers

4.7.6 TfL wrote to some 29 European Freight Organisations and some 42 abatement equipment manufacturers across Europe with information about the LEZ proposals. Each organisation received a letter, translated into the relevant language, outlining the LEZ proposals, including the vehicles to be included, the proposed emissions standards and the proposed implementation dates. The letter also directed each organisation to the more detailed consultation information on the TfL website, including the translated versions of the information leaflet.

4.8 Consultation on proposed amendments to the Scheme Order to include Motor Caravans, Ambulances and Heavier Hearses

4.8.1 In the course of the public and stakeholder consultation on the LEZ Scheme Order, it became apparent that further clarification of the classification of vehicles which were intended to be included in the proposed scheme was needed. In order to clarify the wording of the Order, an amendment was prepared for consideration and comment.

4.8.2 TfL is minded to recommend to the Mayor an amendment to Annex 2 to the Scheme Order to explicitly include heavier diesel engine Motor Caravans, Ambulances and Hearses which have similar emission characteristics to those HGVs and LGVs already included in the Scheme Order. These amendments would ensure that all HGV and LGV derived vehicles that emit particulate matter above the prescribed levels in the Scheme Order would be subject to the proposed Scheme. This proposed amendment would require confirmation by the Mayor of London before it could come into effect.

4.8.3 The consultation period for these amendments ran until 2 March 2007.

4.8.4 TfL prepared an explanatory document providing further information on the proposed amendments and advising that representations or objections could be sent to London Low Emission Zone, Transport for London, 12th Floor, Windsor House, 42 - 50 Victoria Street, London SW1H 0TL, or emailed to lez@tfl.gov.uk.

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Stakeholders consulted on the proposed amendment to the Scheme Order

4.8.5 TfL invited 51 stakeholders possibly impacted by the proposed amendment to the Scheme Order to comment. In addition, a notice was placed in the London Gazette and the explanatory document was made available to the public and organisations on TfL's website.

4.8.6 The categories of stakeholder and the numbers consulted within each category is set out below. A full list of stakeholders is attached in Appendix 1.

- London boroughs (33)
- County councils contiguous to London (6)
- Emergency services (7)
- Professional Organisation (1)
- Trade Associations (3)
- Groups representing different Black, Asian and Minority Ethnic groups nationally (1).

4.9 Meetings and Forums

4.9.1 TfL provided the opportunity to meet with all key stakeholders, to raise awareness of the LEZ proposals; and to provide an opportunity for stakeholders to seek clarification on specific issues. TfL gave briefings on the LEZ proposals at 41 events and offered briefings to all key stakeholders. A full list of the stakeholders TfL met and the details of the meetings are attached in Appendix 3.

Government

4.9.2 Air Quality and Transport personnel from all London boroughs and the six contiguous county councils were offered individual meetings and were also invited to a general London-wide borough briefing. TfL held nine meetings in total with air quality and transport officers from 20 of the 33 London boroughs, as well as four contiguous local authorities. TfL also briefed the Greater London Authority (GLA) Transport Operators attending the Cleaner Transport Forum. London Councils was offered a briefing, but declined.

4.9.3 TfL also briefed the Department for the Environment, Food and Rural Affairs (Defra), and provided further information on its economic, air quality and health impacts projections to inform their review of the National Air Quality Strategy. The Department for Transport was briefed, and provided with information to inform a Secretary of State for Transport decision on the possible inclusion of motorways and trunk roads within the LEZ.

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4.9.4 In response to an invitation from the London Borough of Hillingdon, TfL attended a seminar for London Borough of Hillingdon councillors on the LEZ.

Business and industry

4.9.5 TfL held a Stakeholder forum to which the following Business and Freight/Haulage Representative Groups were invited:

- London First
- CBI London (declined)
- the London Chamber of Commerce and Industry (declined)
- the Federation of Small Businesses
- BVRLA
- the Freight Transport Association (FTA)
- the Road Haulage Association (RHA) (declined)
- the Society of Motor Manufacturers and Traders (SMMT)
- The Confederation of Passenger Transport (CPT)
- Environmental Services Association (declined).

4.9.6 In addition, TfL offered one-to-one meetings to all key industry and business stakeholders. London First, the Federation of Small Businesses, the Freight Transport Association and the Confederation of Passenger Transport took up this offer. The Showmen's Guild also requested and was offered a meeting with TfL.

4.9.7 Other important events that TfL attended, provided briefings to, and answered questions from, were:

- the annual South East London Transport Strategy (SELTRANS) Conference, which was held in central London
- the quarterly meeting of the British Association of Removers (BAR)
- the National Transport Committee of the Federation of Small Business, which was held in Birmingham
- the quarterly meeting of the Freight Transport Association's Greater London Council
- meetings of London's four London freight quality partnerships, being the Brimsdown, West London, Southern and Central Partnerships
- the quarterly meeting of the TfL sponsored Coach Forum
- the quarterly meeting of the London Branch of the Community Transport Association (CTA)
- the Quarterly meeting of Essex County Council's Community Transport providers.

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Environment and health

4.9.8 TfL held a health sector stakeholders forum on 22 January which 6 stakeholders attended. TfL met separately with the London Ambulance Service and St John Ambulances. TfL also offered briefings to the Ambulance Services contiguous to London, but these offers were declined.

Other European cities – Low Emission Zone workshop

4.9.9 During the consultation TfL arranged a workshop with other European cities and states that have implemented or are considering establishing Low Emission Zones. Representatives attended from Norway, Switzerland, the Netherlands and Germany. The purpose of the meeting was to update each other on LEZ developments in Europe, and to develop information sharing on responses to common issues arising.

4.10 Advertising

4.10.1 Advertisements to inform the public, bus operators and vehicle operators of the LEZ proposal and how to respond to the consultation were placed in local and national newspapers; in transport operator trade press titles, including European titles; in ethnic press titles; on buses, bus shelters and tube station ticket halls; on outdoor advertising boards, including at petrol stations, ports and the Eurotunnel; and run on the radio. The media campaign ran from the start of the consultation on 13 November 2006 to 2 February 2007.

London and national print media advertising

4.10.2 A combination of four-page colour pullouts and colour full page, half pages, and strip advertisements which gave details of the proposals and how to respond to the consultation appeared in the following London and national newspapers:

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Table 4.1: London and local print media advertising to support the consultation

Area	Newspaper	Circulation	Date(s)	Type of Ad
Greater London	The London Paper	All adults	wc 13 November	Page colour
Greater London	The Londoner	All adults (monthly)	January issue	Page colour
Greater London	Tribune	9,700	wc 27 November	1/3 page colour
National	The Times	All adults 3.9%	wc 13 November wc 20 November	Page colour
National	Guardian	All adults 2.5%	wc 13 November wc 20 November	Page colour
National	Independent	All adults 1.5%	wc 13 November wc 20 November	Page colour
National	The Sun	All adults 16.8 %	wc 13 November	Half page
National	Daily Mail	All adults 11.4%	wc 13 November	Half page
National	Mirror	All adults 8.3%	wc 13 November	Half page
National	Morning Star	15,000	22 November	20x3 colour
London Capital titles	51 titles	2,260,000	wc 13 November wc 15 January	Page colour Page colour
National (special interest)	Horse and Hound	72,000	16 November	Page colour
National (special interest)	Motor Caravan Magazine	13,000	8 December and January issue	Page colour

Ethnic press titles

4.10.3 In addition, a full page spread on the consultation and how to take part was advertised in the following ethnic press titles:

Table 4.2: Ethnic press titles containing a consultation advertisement

Paper	Advertisement Language	Target audience	Circulation	Dates
Daily Jang	Urdu	Asian Community	13,000	14 Nov
Des Pardes	Punjabi	Indian Community	150,000	23 Nov
Eastern Eye/ Asian Times	English	Asian Community	21,000	14 Nov
Gujarat Samarchar	Gujarati	Asian community	27,000	26 Nov
New Nation	English	Black Community	22,000	20 Nov
Surma	Bengali	British Bengalis	15,500	24 Nov
Voice	English	Black Community	11,500	20 Nov

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Transport Operator trade titles

4.10.4 Full page colour advertisements and inserts were also placed in a number of national transport operator trade publications:

Table 4.3: Transport Operator trade titles containing a consultation advertisement

Paper	Circulation	Detail	Date(s)	Type of Ad
Coach and Bus Buyer	6,700	Weekly	17 November 8 December 26 January	Page colour Insert Page colour
Coach and Bus Week	4,575	Weekly	15 November 6 December 3 January	Page colour Insert Page colour
Commercial Motor	20,627	Weekly	16 November 18 January	Page colour Page colour
Freight	11,000	Monthly	Dec issue Jan issue	Insert Page colour
Green Fleet Magazine	5,200	Monthly	Dec issue	Insert
Logistics and Transport Focus	21,000	10 per year	Dec issue	Insert
Motor Transport	20,396	Weekly	16 November 11 January	Page colour Page colour
Roadway	11,500	Monthly	Dec issue Jan issue	Insert Page colour
Route One	6,366	Weekly	16 November 7 December 4 January	Page colour Insert Page colour
Truck and Driver	26,382	Monthly	Jan issue Feb issue	Insert Page colour
Truck and Plant Trader	19,785	Weekly	16 November 7 December 25 January	Page colour Insert Page colour
Trucking	27,127	Monthly	Jan issue Feb issue	Insert Page colour

European Operator trade titles

4.10.5 Full page colour advertisements were placed in a number of European transport operator trade publications:

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Table 4.4: European Operator trade titles containing a consultation advertisement

Country	Title	Target sector	Circulation	Detail	Date(s)
Belgium	Transporama	All sectors	22,500	Monthly	Nov issue
Belgium	Truck & Business	HGVs/LGVs	15,000	Quarterly	Nov-Jan issue
Czech Republic	AutoProfi	HGVs	15,000	Monthly	Dec issue
Czech Republic	Doprava a silnice	LGVs/buses	10,000	Monthly	Dec/Jan issue
Czech Republic	Pofit (Stanford)	All sectors	20,000	Weekly	wc 13 Nov
Czech Republic	Transport Magazin	HGVs/LGVs		Monthly	Dec/Jan issue
Denmark	Lager & Transport Logistikmagasinet	HGVs	13,000	Weekly	wc 20 Nov
Denmark	Transport & Logistik	HGVs/LGVs	6,000	Weekly	wc 20 Nov
Denmark	Transport Magasinet	All sectors	12,000	Weekly	wc 27 Nov
France	Bus and car	All sectors	4,500	Weekly	wc 20 Nov
France	France Routes	HGVs/LGVs	37,000	Monthly	Nov/Dec issue
France	Les Routiers	HGVs/LGVs	45,000	Monthly	Nov/Dec issue
Germany	Dt Logistik Zeitung	HGVs	15,300	Weekly	wc 6 Nov
Germany	Eurobus	Buses	8,700	Weekly	wc 30 Nov
Germany	KFS Anzeiger	HGVs/LGVs	39,900	Weekly	wc 13 Nov
Ireland	Fleet management	All sectors	5,600	Monthly	Dec issue
Italy	Il Giornale dei Trasportati	HGVs/LGVs	22,000	Monthly	Dec issue
Italy	TIR	HGVs	186,000	Monthly	Dec issue
Italy	Vado e Torno	All sectors	54,000	Monthly	Dec issue
Netherlands	Evo Logistiek	HGVs/LGVs	5,700	Bi-monthly	Nov/Dec issue
Netherlands	Transport & Logistiek	HGVs/LGVs	9,100	Bi-weekly	Nov issue
Netherlands	TTM	All sectors	9,700	Monthly	Nov issue
Netherlands	Vervoer		3,500	10x year	Dec issue
Netherlands	Visie		7,000	6x year	Dec/Jan issue
Poland	Eurologistics	HGVs/LGVs	10,000	Bi-monthly	Dec/Jan issue
Poland	Polska Gazeta Transportowa	All sectors	5,000	Weekly	wc 13 Nov
Poland	Spedycja Transport Logistyka	HGVs	8,000	Monthly	Dec issue
Spain	Autobuses y Autocares	LGVs/buses		Monthly	Nov/Dec issue

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Country	Title	Target sector	Circulation	Detail	Date(s)
Spain	Solo Furgo	HGVs/LGVs		Monthly	Nov/Dec issue
Spain	Transporte Mundial	HGVs/LGVs	14,300	Monthly	Nov/Dec issue

Radio Advertisements

4.10.6 Two radio advertisements were broadcast from 14 November to 8 December 2006 and 1 January to 2 February 2007. The advertisements made listeners aware of the consultation and advised listeners to call the local rate telephone number and to visit TfL's website in order to obtain the consultation information leaflet and questionnaire and further information.

4.10.7 The advertisements were broadcast on the following radio stations: Heart, LBC, Magic, Sunrise, Spectrum, Talksport, Virgin.

Impact of print and media advertising

4.10.8 Using a media industry standard calculation, TfL's media agency estimated that the cumulative number of adult 'impacts' was 282 million. One impact is equivalent to one person seeing or hearing an advert once. This calculation does not include the trade press and ethnic press.

4.11 Legal notice to publicise the consultation

4.11.1 A legal notice publicising the consultation was published on 13 November 2006 in the London Gazette. The notice included the following information:

- Notice that an Order had been made under Schedule 23 of the Greater London Authority Act 2006 and the title of the Order – Greater London Low Emission Zone Charging Order 2006
- A brief outline of the detail of the LEZ scheme as set out in the Scheme Order
- Details of where the leaflet summarising the proposal and other supporting documents could be obtained
- The Freepost address for people to submit their questionnaires and any additional comments
- The date by which representations were to be received

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4.12 Late consultation responses

4.12.1 Responses to the Scheme Order consultation from the public, businesses and other organisations received up to 23 February 2007 were analysed by Accent. Responses from the public, businesses and other organisations received after 23 February and up to 20 April 2007 are analysed in Annex E to this report. Responses from stakeholders are analysed in Chapter 6 and Annex C of this report. All other representations received up to the date of the Mayor's decision will be forwarded to him.

5 Impacts of the Proposed London Low Emission Zone

5.1 As part of the package of documents to accompany the public and stakeholder consultation on the Low Emission Zone (LEZ) Scheme Order, TfL commissioned consultants to carry out four impact assessments. These examined the potential environmental, health, economic and equalities impacts of the proposed LEZ. This chapter summarises the main conclusions of those impact assessments.

Environmental Impacts

5.2 The proposed LEZ would have a significantly beneficial effect in terms of air quality, by reducing PM and NO_x emissions from road traffic. These benefits would extend beyond the boundary of the LEZ and bring London closer to achieving the statutory and provisional air quality objectives and EU limit values.

5.3 If the proposed LEZ were implemented in 2008, it is expected that the area of Greater London where the air quality exceeds the daily PM₁₀ limit (applicable from 2004 in UK law), would be reduced by around seven per cent in 2008. This PM₁₀ limit is provisionally tightened under the National Air Quality Strategy issued in 2003. If the LEZ were implemented as proposed, in 2012, the area of London exceeding this provisional tighter limit would be reduced by around 15 per cent. It should be noted that the next Air Quality Directive is unlikely to include the provisional limit in this form.

5.4 In 2010, it is estimated that the LEZ as proposed would result in a reduction of the area of Greater London where the air quality exceeds the annual mean NO₂ objective for 2010 by around four per cent. In 2012, it is projected that the LEZ would reduce the area exceeding the annual mean NO₂ objective by around 16 per cent.

5.5 It is not anticipated that the proposed LEZ would have a significant impact on carbon dioxide emissions. There may be some small benefits from reduced carbon dioxide emissions through newer vehicles being introduced into the fleet, though these may be offset by greater fuel use relating to the fitting of particulate abatement equipment.

5.6 The introduction of a LEZ within Greater London has the potential to have a beneficial effect on the biodiversity within London and of reducing the soiling and decay due to dry deposition of cultural heritage assets in London as a result of reductions in PM emissions, although this effect is not expected to be significant. The proposed enforcement cameras and associated equipment and signage would be likely to have a negligible impact on townscape character and visual amenity.

- 5.7 The proposed LEZ would be likely to have a negligible impact in terms of diverting trips with no origin or destination within London and 'rat-running' on unsuitable roads by non-compliant vehicles trying to avoid enforcement cameras. There may be a small reduction in noise levels as older, noisier vehicles are removed from the fleet, though the overall effects on noise are likely to be marginal. In terms of waste, the scheme is not expected to have significant adverse effects resulting from increased scrapping of vehicles.

Health Impacts

- 5.8 The proposed LEZ would be an important part of London's overall strategy for improving air quality and limiting the associated health impacts. The health benefits would not be confined to London's population but would apply to the wider UK population, due to the impact of cleaner vehicles used outside of the LEZ, as well as inside.
- 5.9 TfL has used two methodologies to forecast the monetised health benefits of the proposed LEZ. The Defra-led Interdepartmental Group on Costs and Benefits (IGCB) methodology captures only these obvious health impacts of air pollution (premature deaths and hospital admissions), whereas the EU CAFE methodology attempts to take into account a wider range of health effects, such as restricted activity days, respiratory symptoms and increased use of medicines.
- 5.10 Since the consultation documents were prepared, Defra has introduced a change to the IGCB methodology, which results in a reduction in the formation rate of secondary particulates per unit of NO_x emissions. This slightly reduces the overall benefits of the LEZ. However, this has been offset by a number of other minor changes, the most important of which is a re-analysis of the outside London data, using DfT data, that has more accurately assessed the split of outside London kilometres by area type. This leads to a small increase in outside London PM benefits. The overall revised estimates of health benefits resulting from the LEZ are £170m - £240m for the Defra/IGCB method and £250m - £670m for the EU CAFE method.
- 5.11 TfL has calculated a sensitivity test to the health benefits to look at the case where more operators choose to retrofit their vehicles than buy replacements. This showed a marginal change to the benefits under the Defra/IGCB method (about 10%) and no change to the benefits under the EU CAFE method. The sensitivity has no impact on the scheme Benefit Cost Ratio (BCR).

- 5.12 There are significant differences in the distribution of these benefits. Central London boroughs appear to experience the highest level of benefit because that is where the air quality problems are most severe. These boroughs are also those that have the highest proportion of deprived communities; therefore, it is the most deprived communities that on average experience the most significant improvements in air quality. Although the relative improvements in air pollution are modest, they are important given that such communities are thought to be more vulnerable to air quality impacts on health. It is worth noting that air pollution is highest by major roads, and it is along these roads that some of the most deprived communities in London live. However, there is the potential for a small negative impact on health, due to the possible impacts of the LEZ on employment.
- 5.13 The most important health benefits from the proposed LEZ are those associated with improvements in air quality. The benefits estimated illustrate the important impact that the scheme would have on reducing the illness and premature deaths associated with air pollution in London.

Economic Impacts

- 5.14 Without any change in fleet management practices, around two thirds of HGVs and half of buses and coaches would be compliant with the proposed 2008 standards, and around three quarters of heavier LGVs and minibuses would be compliant with the proposed 2010 standard when these vehicles would come within the scope of the LEZ. On the basis of research undertaken on TfL's behalf, it is estimated that the costs of compliance associated with asset replacement and vehicle upgrade/retrofitting consequent on the introduction of the LEZ would result in net economic costs of some £120m to £270m (Present Value to 2015/6) and lead to a net loss of between 140 and 420 jobs over the period to 2015/16. This cost would not be carried solely by London – but more widely across the UK economy.
- 5.15 Some two thirds of these costs would be passed directly to customers. Given the overall geographical area impacted and the size of the economy affected, these increased costs would be almost negligible. The final one third of the compliance costs would be absorbed by the vehicle owners/operators. In aggregate net terms the impact would be very small: the estimated range of increased costs represents around only one tenth of one per cent (0.1%) of the total operating costs of the industry. On this basis, TfL has estimated that in the transport sector itself this could lead to the loss of some 240-430 FTE jobs over the period to 2015/16, though the impact could be smaller. There could also be potential increases in jobs in other sectors, such as the pollution abatement industry and the vehicle maintenance sector.

- 5.16 However, the analysis does suggest that the introduction of the LEZ might have some re-distributional impact on jobs. The low net figure for job loss would include numbers of jobs lost in some firms compensated for by job gains in others.
- 5.17 It should be noted that the current government Inter-Departmental Group on Costs and Benefits (IGCB) is assessing retrofit options for the transport fleet as part of the Defra Air Quality Strategy Review. Their approach for estimating the costs of this technology is based on the resource costs per unit which the producers have to incur when producing the equipment, rather than the market price. Applying such a resource cost approach would reduce the estimated cost to operators of the LEZ and in calculating the costs and benefits, significantly improve the BCR for the LEZ. TfL is working with Defra to develop a consistent resource cost analysis to support central government appraisal of the LEZ. The figures given elsewhere in this document relate to TfL's more conservative estimates of BCR based on market price costs for compliance.

Equalities Impacts

- 5.18 The whole population in London would experience an overall improvement in air quality with resulting health improvements following the implementation of the proposed LEZ. Some Equality Target Groups (ETGs) would, however, be expected to experience above average improvements because they are more likely to live in areas of higher existing exposure to air pollution and/or because they may be more vulnerable to health impacts associated with poor air quality due to existing poor health. In particular, Black, Asian and minority ethnic people were found to experience higher levels of air pollution than the average for the whole population and could therefore be expected to benefit more from any reductions. Older people and young people are also at greater risk from exposure to air pollution, so these groups could also benefit more than the rest of the population from reduced air pollution.
- 5.19 A review of the economic and business impact assessment undertaken to accompany the Scheme Order consultation, together with other relevant literature, suggests the economic impacts of the LEZ would arise primarily from the cost of retrofitting existing vehicles or buying new ones that comply with the required standards. In some cases this may not be economically viable, leading to the possibility, in extreme cases, that services could be withdrawn or businesses could close.
- 5.20 The evidence reviewed for this study suggested that the businesses that are most likely to suffer adverse effects are very small businesses that use heavier vans or minibuses. This is a consequence both of the greater

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average age of vehicles in small fleets and the greater vulnerability of small businesses to increased costs.

- 5.21 The stakeholder engagement undertaken as part of this study sought the views of ETGs on the proposed LEZ. Fourteen stakeholder groups representing older people, younger people, Black, Asian and minority ethnic people, gypsies and travellers, and people with disabilities were interviewed along with groups representing community transport organisations.
- 5.22 While a number of groups expressed some concern about the potential cost of compliance on charities and small community organisations, in general there was little evidence that these impacts would fall more severely on ETGs than on the wider community.