



SCOTT WILSON Planning, Environment & Landscape
Environmental Appraisal of the Proposed
London Low Emission Zone

ENVIRONMENTAL REPORT

Non-technical Summary

November 2006



**Environmental Appraisal of the
Proposed London Low Emission Zone**
Environmental Report – Non-technical Summary
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1 Introduction

- 1.1.1 Scott Wilson, with support from Air Quality Consultants, has been commissioned by Transport for London (TfL) to undertake an Environmental Appraisal of the proposed London Low Emission Zone (LEZ).
- 1.1.2 A LEZ is a designated area where measures have been put in place to improve air quality by preventing or deterring the most polluting vehicles from driving in the Zone.
- 1.1.3 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 estimated that in 2005 some 1000 premature deaths and a similar number of hospital admissions occurred due to poor air quality in London. Many more people experience discomfort as a result of air quality aggravating existing conditions.
- 1.1.4 The Mayor has a legal obligation to take steps towards meeting national and European Union (EU) air quality objectives that are designed to protect human health. Based on current trends, and without further action, it is predicted that London will not meet its 2010 objectives for two pollutants: PM₁₀ (particulate matter) and NO₂ (nitrogen dioxide).
- 1.1.5 In London, road transport is the single biggest source of emissions of these pollutants. Encouraging certain vehicles to meet emission standards to drive within the LEZ would deliver a reduction in emissions of oxides of nitrogen (NO_x) the reduce the concentrations of PM₁₀ and NO₂ in the atmosphere, and thereby improve the health of people living in, working in and visiting the capital.
- 1.1.6 On the basis of TfL's analysis and in the absence of any suitable national initiatives, a LEZ represents the most effective option for achieving reductions of the most harmful road transport generated emissions in London between 2008 and 2015 and will help London work towards achieving air quality improvements. The proposed LEZ represents the most effective option for achieving reductions of the most harmful road transport generated emissions in London between 2008 and 2015.

2 The Proposed London Low Emission Zone

- 2.1.1 As the LEZ is designed to discourage the most individually polluting vehicles from travelling within London, the scheme is targeted at older diesel engine HGVs, buses, coaches, heavier LGVs and minibuses. Both UK registered and non-UK registered vehicles would need to comply with the LEZ, with vehicles being defined using European vehicle definitions to ensure a legal basis that applies equally across the EU.
- 2.1.2 The LEZ would also apply to some private vehicles that are lorry-derived vehicles, such as some motorised horse boxes and some motor homes. It is not proposed that cars be included in the LEZ at this stage, although the Mayor has asked TfL to look at the implications of potentially including cars at a later date.

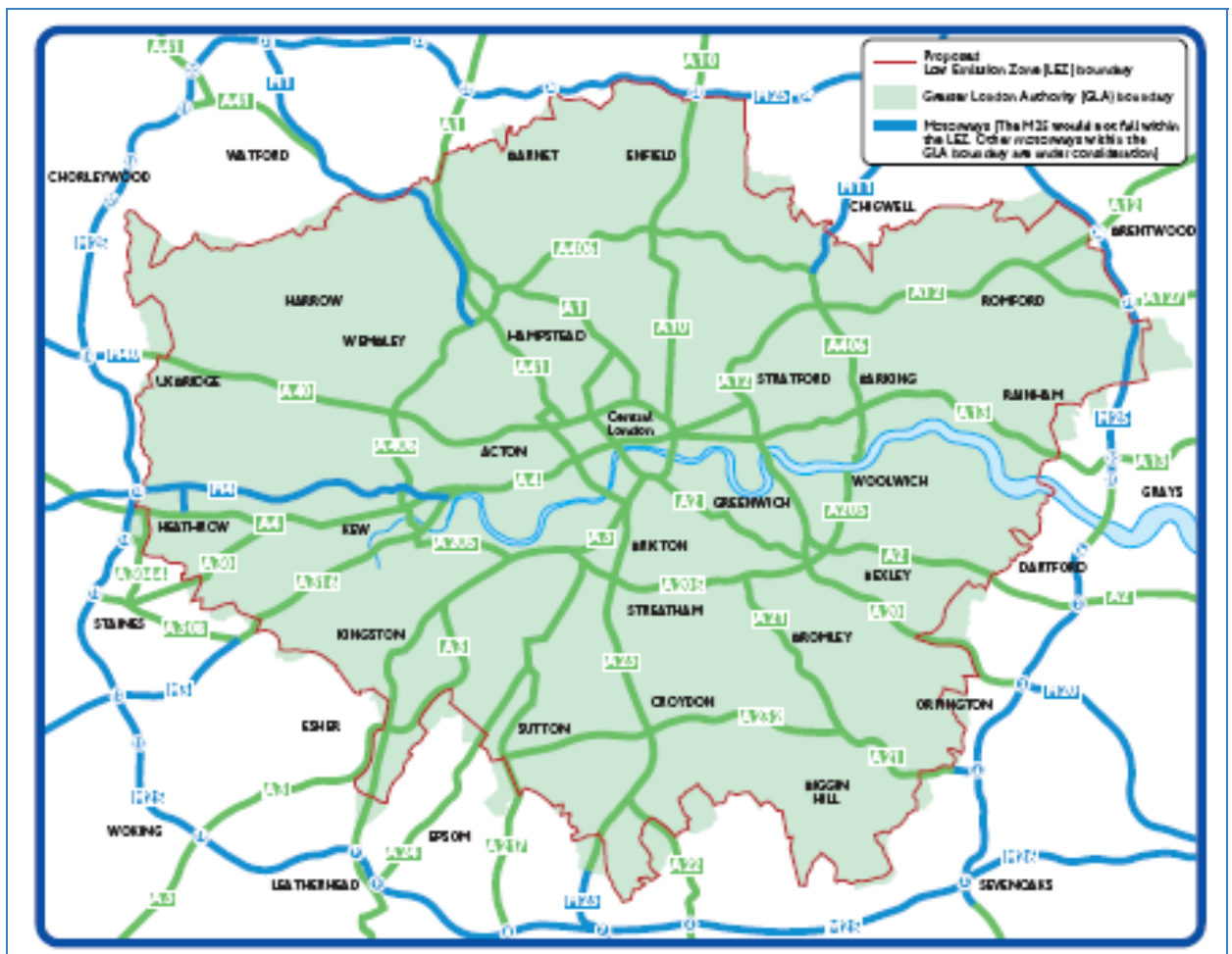


Figure 2.1: The proposed London Low Emission Zone

- 2.1.3 It is proposed that a small number of vehicle types would be exempt from the scheme. These include agricultural vehicles, military vehicles, historic vehicles not used for hire or reward, non-road going vehicles which are allowed to drive on the highway (for example excavators) and certain types of mobile crane. These vehicles typically use engines certified to different

standards than road-going engines.

- 2.1.4 The Figure 2.1 (above) shows the area to be covered by the LEZ. Detailed maps can be found in electronic format at www.tfl.gov.uk/lezlondon. Hard copies have been deposited at TfL's offices at Faith Lawson House, 15-17 Dacre Street, London, SW1 0NR.
- 2.1.5 It is proposed that the emission standards for the LEZ scheme would be based on 'Euro standards'. These are European standards that define the limits for exhaust emissions for new vehicles sold in EU member states, and which these vehicles must comply with when manufactured from a certain date.
- 2.1.6 From February 2008 HGVs over 12 tonnes would be required to comply with a standard of Euro III for particulate matter (PM) in order to drive within the LEZ without paying the charge. From July 2008 a standard of Euro III for PM would apply to all diesel engine HGVs (i.e. goods vehicles over 3.5 tonnes), buses and coaches (i.e. passenger carrying vehicles over 5 tonnes with more than 8 seats plus the driver's seat).
- 2.1.7 From October 2010 a standard of Euro III for PM would apply to heavier diesel engine LGVs and minibuses. From January 2012 all diesel engine HGVs, buses and coaches would be required to meet a standard of Euro IV for PM in order to drive in the LEZ without paying the charge. It is not proposed that the standard for heavier diesel engine LGVs and minibuses would be increased in 2012.

3 Environmental Appraisal

- 3.1.1 The revisions to the Mayor's Air Quality and Transport Strategies (TfL, 2006) to allow for proposed London LEZ have already undergone a process of Strategic Environmental Assessment (SEA), as defined by the Environmental Assessment of Plans and Programmes Regulations 2004.
- 3.1.2 The statutory report produced during the SEA discussed the likely significant effects of the LEZ core option and the two variants:
- The LEZ core option – commencing in 2008, and including HGVs, buses and coaches. The emission standard was Euro III for PM₁₀ from 2008 and Euro IV for PM₁₀ from 2010
 - The additional core plus NO_x option - this was be the same as the LEZ core option, but with emission standards of Euro IV for both PM₁₀ and NO_x from 2010
 - The additional core plus LGV option – again, this was be the same as the LEZ core option but included heaviest, most polluting LGVs from 2010. The standard for LGVs was a rolling age-based limit of 10 years
- 3.1.3 The SEA focussed principally on the following topics, where significant effects were thought to be likely:
- Air; and
 - Human Health.
- 3.1.4 It also gave brief consideration to potential effects on the following topics, where significant effects were not thought likely but may occur:
- Biodiversity (including flora and fauna);
 - Climate;
 - Material assets;
 - Cultural heritage; and
 - Landscape / townscape.
- 3.1.5 Since the completion of the SEA, and in the light of comments received from consultees, the proposed LEZ has been refined. Further information has also become available, such as the indicative location of enforcement infrastructure. The revised LEZ scheme proposals are set out in the final revisions to the Mayor's Air Quality and Transport Strategies. This second round of environmental appraisal is designed to help clarify further the likely environmental effects of the revised scheme.
- 3.1.6 In order to provide a structured approach to the appraisal, TfL is adopting the standard Environmental Impact Assessment (EIA) technique for project assessment. This represents a tried and tested approach to examine the environmental effects of a project and to propose mitigation measures for any

adverse effects identified.

- 3.1.7 Government Circular 2/99 on Environmental Impact Assessment (DETR, 1999) defines EIA as '*A means of drawing together, in a systematic way, an assessment of the project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing them, are properly understood by the public and the relevant competent authority before it makes its decision*'.
- 3.1.8 EIA is a statutory requirement for certain classes of project prior to obtaining development consent, however the proposed LEZ is not among the classes subject to EIA. Nevertheless TfL decided to undertake a voluntary appraisal, guided by the EIA approach, as a best-practice measure.
- 3.1.9 The aim of the Environmental Appraisal is to identify any impacts arising from the LEZ that may give rise to significant environmental effects, minimise any adverse effects and enhancing beneficial effects wherever possible.
- 3.1.10 The technical scope of the Environmental Appraisal was defined in a Scoping Report and made available for consultation with selected key stakeholders (including those required by the EIA process). The assessment was carried out with reference to the Greater London area for the period 2008 to 2015.

4 Findings

4.1 Traffic

4.1.1 Previous studies have shown that the LEZ is likely to have a negligible impact in terms of diverting trips with no origin or destination within London and 'rat-running' on unsuitable roads owing to non-compliant vehicles attempting to avoid enforcement camera sites. Equally the LEZ is unlikely to significantly affect the numbers of people or volumes of goods transported by road in London.

4.2 Air Quality

4.2.1 The proposed LEZ would reduce PM₁₀ and NO_x emissions from road traffic. The effects would extend beyond the boundary of the LEZ, out to and beyond the M25 corridor. It would bring London closer to achieving the statutory and provisional air quality objectives and EU limit values. The LEZ is thought likely to have a significantly beneficial effect given the number of people affected by the air quality benefits.

4.3 Noise

4.3.1 The impacts arising from construction noise and vibration are not expected to have significant effects but best practice measures would be implemented to ensure that any noise generated is minimised. Once operational, the LEZ would have potential benefits on noise, as it removes older noisier vehicles from the fleet. However, it is estimated that it would lead to only small reductions in noise levels; therefore, environmental benefits are likely to be real but marginal.

4.4 Landscape

4.4.1 Most of the proposed enforcement cameras and associated equipment are likely to have visual effects of low or negligible significance. Similarly the associated traffic signs would have a negligible effect on townscape character and visual amenity.

4.5 Ecology

4.5.1 The introduction of a LEZ within Greater London, which is predicted to lead to a reduction in concentrations of nitrogen dioxide and particulate matter, has the potential to have a small beneficial effect on biodiversity within London.

4.5.2 The installation of the enforcement cameras and warning signs would have no significant effects on biodiversity.

4.6 Cultural Heritage

4.6.1 The LEZ would have a beneficial effect of reducing the soiling and decay, due

to dry deposition, of cultural heritage assets in London due to reductions in emissions of particulate matter. However the effects are unlikely to be significant.

4.7 Waste

4.7.1 The proposed LEZ is not expected to have significant adverse effects resulting from increased scrapping of vehicles.

4.8 Climate Change

4.8.1 The effect of the proposed LEZ on climate change is expected to be negligible.

5 Mitigation

5.1.1 The principal effect of the LEZ would be to improve air quality. Other effects on the environment are not likely to be significant. Mitigation measures to offset significant adverse effects are therefore unnecessary.

6 Monitoring

6.1.1 The following monitoring is proposed in the Environmental Report:

Table 6.1: Proposed monitoring

Chapter	Proposed Monitoring
Chapter 6 - Traffic	Headline traffic figures for the Greater London area that are currently monitored and readily available would provide a useful source of information relating to traffic flows by vehicle type on main routes into London and also on the M25
	It is suggested that a monitoring strategy be developed that is also focused upon representative areas, such as those around camera sites, or those identified in the modelling, to assess the local impacts
Chapter 7 - Air Quality	Model pollutant emissions and air quality concentrations using observed data
	Measure ambient concentrations of NO ₂ , PM ₁₀ and PM _{2.5} , and ozone in inner and outer zones with LEZ compared to data outside London. Analyse data from these sites (as annual means and 3-year rolling means) to identify long term changes
	Measure NO ₂ /NO _x ratios and analyse data against expected trends
	Number of local authorities with AQMAs for NO ₂ and/or PM ₁₀ due to traffic emissions
	Number of HGVs and LGVs entering the LEZ
Chapter 8 - Noise and Vibration	Changes to Euro emission standards of observed vehicles in the LEZ
	TfL should consider undertaking monitoring for a period of several weeks prior to the launch of the LEZ and for a prolonged period after it is active
Chapter 10 - Ecology	Monitoring could also make use of the LEZ monitoring cameras, which will record information on traffic types and volumes
	TfL could consider monitoring any changes in lichen and moss abundance and distribution, as is this likely to yield the greatest results

7 Further information

7.1.1 Further information on the proposed LEZ is available at www.tfl.gov.uk/lezlondon.