

Transport For London

Safety and Sustainability Panel

Subject: TfL's Approach to Addressing Air Quality and CO₂ Challenges in London

Date: 19 March 2013

1 Purpose

- 1.1 The purpose of this paper is to provide the Panel with an update on progress on work to reduce emissions of air pollutants and greenhouse gases from London's transport sector in the context of demanding targets for reduction.
- 1.2 The Panel is asked to note the paper.

2 Background

- 2.1 The Mayor's transport, air quality and climate change strategies all identify the large gap between forecast emissions and the required level to meet EU and Mayoral targets. Ongoing action is required to meet this challenge to reduce human exposure to pollutants (particularly PM and NO₂), lessen London's contribution to climate change and improve quality of life in the Capital. Appendix 1 provides an outline of emissions sources in London, showing the proportion from ground-based transport for PM₁₀, NO_x and CO₂.

Particulate Matter (PM)

- 2.2 Particulate matter (PM) aggravates respiratory and cardio vascular conditions. Current knowledge about the health effects of PM suggests there is no specific threshold at which the fine particles' effects on human health change abruptly. The EU sets limit values for PM₁₀ and compliance in London has been reported in recent years, although for some areas only marginally so.
- 2.3 In light of the above and evidence that there are some areas in the Capital that remain at risk of exceedance, measures to reduce PM₁₀ (and PM_{2.5}) must continue to be undertaken.

Nitrogen Dioxide (NO₂)

- 2.4 At high concentrations, NO₂ is a toxic gas that can cause inflammation of the airways and long-term exposure can affect lung function and respiratory symptoms, especially in young people. Reduced lung function growth is linked to NO₂ at concentrations currently measured in London, particularly at inner city locations. The EU compliance date for NO₂ limit values was January 2010 but the Capital is currently not expected to comply until beyond 2020.

Climate Change

- 2.5 The Mayor is committed to a target of a 60 per cent reduction in annual emissions of CO₂ by 2025 on a 1990 base. All sectors must contribute to the overall reduction but the Mayor's Climate Change Mitigation and Energy Strategy (CCMES), published in October 2011, suggested the transport sector contributes to the wider target by making a 48 per cent reduction in transport CO₂ emissions.

3 TfL Business Plan

- 3.1 The TfL Business Plan, sets out programmes and projects which will improve London's environment, for example, by improving the quality of the public transport, walking and cycling networks, will lead to an increase in mode shares for those sustainable modes. In addition, it seeks to focus investment to meet the most immediate and pressing environmental challenge - that of reducing NO₂ (i.e. NO_x emissions). However, investment measures that have also been chosen also yield a benefit in reducing PM and CO₂. The specific environmental portfolio is comprised as follows

- a) Measures to ensure all TfL buses meet at least Euro IV standard for NO_x and PM₁₀ from 2015 (LEZ Phase 5);
- b) Adding further hybrid buses to the fleet to reach a total of 1600 by 2016 (including 600 New Buses for London). This equates to 20 per cent of the fleet;
- c) Continued operation of hydrogen buses on route RV1;
- d) 120 electric vehicles in the TfL fleet;
- e) Support for a cleaner taxi fund or smarter driving campaigns;
- f) Investment in alternative fuels – electric and biodiesel bus trials etc.;
- g) Behaviour change and promotion of low emission vehicles;
- h) Enhancement to LU Station Improvement Programme and further roll out of energy efficient technologies;
- i) Advancing the Greenwich Power Station redevelopment project to explore potential for low-carbon energy generation;
- j) Feasibility study into the effectiveness of noise mitigation measures; and
- k) The Mayor's Air Quality Fund for boroughs to support innovative local measures

4 Work Programme

- 4.1 In addition to the projects already being delivered, TfL is exploring further policies to reduce transport emissions. This is being done through the development of:

- a) An internal TfL Environment Strategy, which will assemble internal programmes to meet TfL's environmental key performance indicators;
- b) A Low Emission Vehicles Strategy, which will set out London's aspirations for all types of road vehicles in use in London (public and private);
- c) A London Transport Emissions Action plan which will set out initiatives for CO₂ and NO₂ that will address emissions from the transport sector as a whole; and specifically
- d) An Ultra-Low Emission Zone, as detailed below.

5 Ultra-Low Emission Zone (ULEZ)

- 5.1 On 13 February 2013 the Mayor announced his ambition for an ULEZ in central London by 2020. The overarching aim of an ULEZ would be to instigate a combined reduction in particulate matter, NO_x and CO₂ from road transport emissions. It would reaffirm the Mayor's position that London is doing all it can to achieve compliance with EU limit values, whilst ensuring the Capital remains at the forefront of emissions management. An ULEZ would benefit the health of Londoners and visitors by reducing exposure to pollutant emissions and demonstrate firm action towards mitigating climate change.
- 5.2 The ULEZ is an ideal opportunity to maximise knowledge and investment from the 2012 Games and transform the way people move in central London as a lasting legacy of sustainable travel. This will only be successful whilst ensuring central London remains a centre of national and international importance, both economically and culturally. As part of his ambition for ULEZ, the Mayor is keen to ensure all buses in central London are hybrid by 2020 (30 per cent of the total London fleet) and that a new taxi vehicle which is capable of zero emissions is available on the market.
- 5.3 A feasibility study is underway, scoping out how a ULEZ could be delivered and the likely costs and impacts. It will be reported back to the Mayor in summer 2013. It is envisaged a statement of intent will be formalised by the Mayor at the end of the year.
- 5.4 It is recommended that an update on the development of the London Transport Emissions Action Plan (including ULEZ) is provided to the Panel in early autumn 2013.

6 Recommendations

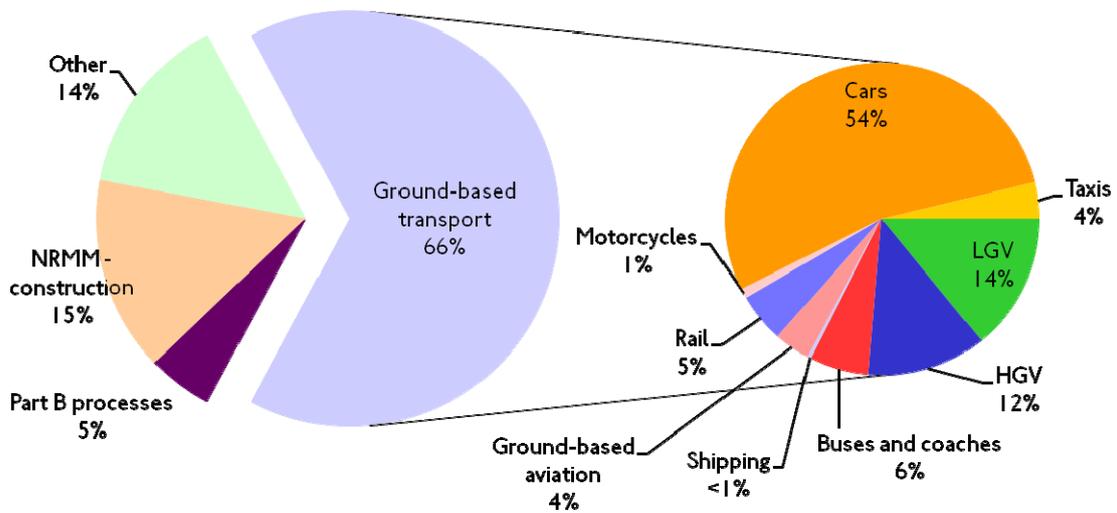
- 6.1 The Panel is asked to NOTE the paper.

7 Contact

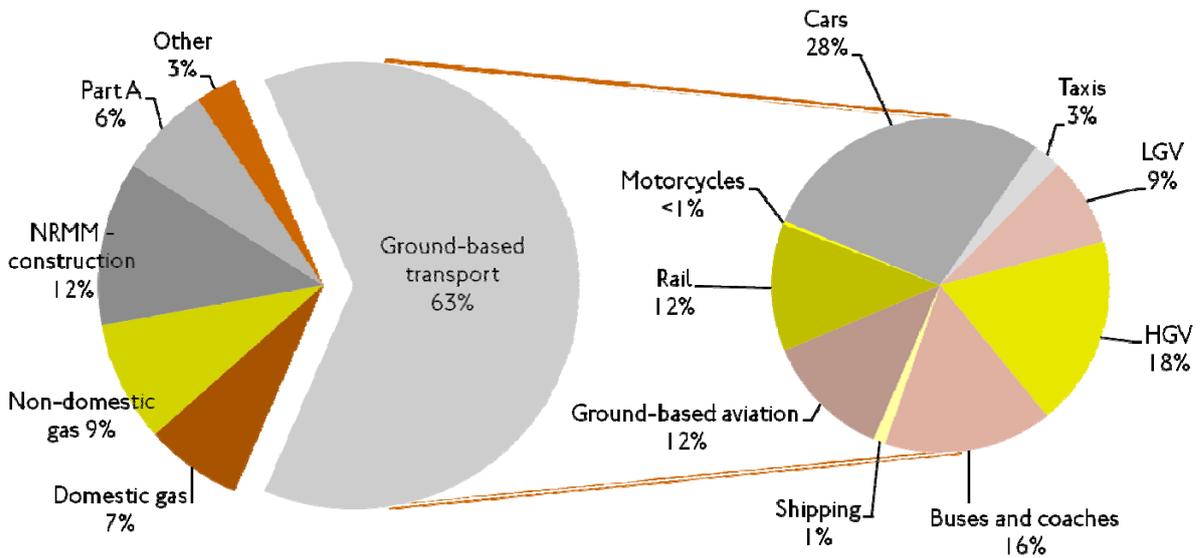
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APPENDIX 1

PM₁₀ emissions sources (2010)



NO_x emissions sources (2010)



CO₂ emissions sources (2010)

