
Secretariat memorandum

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PC107

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Transport aspects of air quality

1 Purpose of report

- 1.1 To update members on London's air quality issues and transport-related aspects.

2 Recommendation

- 2.1 Members to note this report for information

3 Background

- 3.1 Whilst air quality is closely linked to how Londoners travel it is an area of policy that London TravelWatch has not prioritised. That said, London TravelWatch's support for the most space efficient and active modes will be supportive of better air quality.
- 3.2 Air quality in London has been known to be poor for many years to such a degree that it affects human health. Pollution is particularly high in inner London, along major roads and around Heathrow Airport. Concern has increased in recent years and action has been prompted because although progress has been made on reducing some forms of pollution (particles known as PM10s) the levels of Nitrogen Oxides (NOX - a poisonous gas) remain too high. The health issues associated with smaller particles (PM2.5s) is becoming better understood and believed to be harmful. After threatening legal action for many years the European Union, in 2014, started proceedings against the UK Government for breaching EU pollution limits.
- 3.3 Much has been done to address this issue. There have been improvements in engine performance driven by EU directives. Euro IV and V were disappointing, but much improvement has been delivered by the introduction of new engine specification Euro VI bus engines which perform significantly better than previous engines in terms of emissions. London government has sought to reduce private vehicle use. Transport for London has invested in innovative bus engine technologies: hybrid buses, electric and hydrogen fuel cell. The previous Mayor introduced a Low Emission Zone (LEZ) covering Greater London and proposed an Ultra Low Emission Zone (ULEZ) for the congestion charge area in

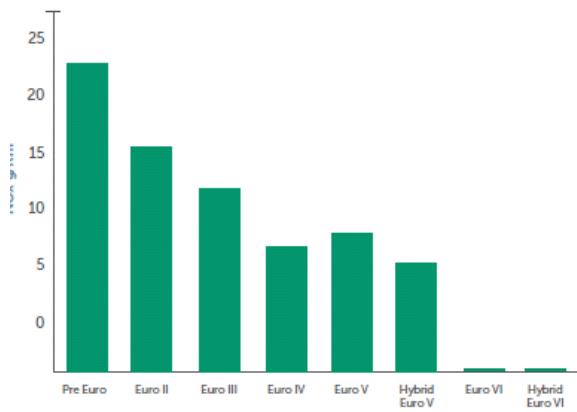
2020. Electric vehicles are encouraged by the provision of charging points. Transport for London tried spraying the pollution and introduced bushes along the sides of some heavily polluted streets.

4 Proposed future measures

- 4.1 Mayor Khan has proposed further action to improve air quality. Most significantly an additional charge will be made for the oldest vehicles entering central London and the ULEZ may cover an area as far out as the North and South Circular roads for all vehicles and the whole of Greater London for large vehicles, buses and coaches. The introduction of low or zero emission buses is being accelerated, particularly along the road corridors that are most polluted. The Mayor's transport strategy continues to promote modal switch to public transport cycle and walk.

5 Discussion

- 5.1 The issue of transport related emissions and the breach of EU legal limits has been well understood for many years. There has been activity to address the issue, but never enough to improve air quality to legal levels for all pollutants. Also as some pollutants have reduced in levels (PM10s) others have become recognised as a problem (PM2.5s). It should be noted that whilst there are legal limits to [pollution levels there is no 'safe' level of pollution. Some advocate for lower levels than the legal limits.
- 5.2 Air quality has risen up the political agenda and more action is being proposed. If implemented these actions will go a long way to cleaning up the bus fleet – Euro vi engines are said to perform significantly better than previous standards, producing a fraction of the emissions of earlier engine designs. A widened ULEZ will encourage the removal of the most polluting private vehicles. Together these actions will improve air quality, although it is not yet certain if the legal limits will be met.
- 5.3 Particles (PM10s) are derived from combustion, but also the wearing of tyres and brakes. There is little sign of this issue being addressed.
- 5.4 More could and should be done to tackle congestion. Whilst there is no substantive policy change that will reduce the levels of congestion in London stop-start driving will significantly affect emission levels. Much hope is being invested in modal switch. However, there must be significant incentives to change travel behaviour and to 'lock-in' the benefits of changing behaviour to the more space efficient modes if congestion is to be tackled. Without road pricing, permitting, reductions in parking or some other restraint on motor vehicle use then latent demand for travel will mean that congestion will remain a problem.
- 5.5 The upgrading of the bus fleet to Euro VI and hybrid engines is the most cost effective way of delivering swift reductions in harmful emissions. Indeed London will already be benefitting as this roll-out is happening already. The graph below demonstrates the benefits of Euro IV engines in real life conditions.



Source: independent test data for double decker bus on London 159 test route

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- 5.6 Other engines are worth developing, but with an eye to the costs and benefits². Electric buses may be worth developing. They clearly produce no emissions locally and battery technology is improving to enable them to become more viable. However, upgrading the power supply at garages will be a challenge and expensive. Hydrogen fuel cell powered buses are very expensive, but again development should continue.
- 5.7 The Mayor of London's Air Quality Strategy promotes electric vehicles. It envisages 100,000 vehicles by 2020. It is unclear how this will be achieved and what scale of charging infrastructure will be needed. The paraphernalia of electric charging points required will mean additional pavement clutter and a less attractive pedestrian environment.
- 5.8 London TravelWatch has highlighted the issue of taxis and private hire vehicles carrying passengers from outside London to Heathrow and then being unable to take a passenger on the taxis return journey from Heathrow, unless pre-booked. Enabling coordination of taxi and private hire vehicles to reduce this inefficiency would mean cheaper taxi journeys for passengers, less empty vehicle mileage, reduced congestion and as a consequence better air quality.
- 5.9 Air quality around Heathrow Airport is a major issue in relation to the proposed expansion of runway capacity. Most of this can be attributed to road traffic in and around the airport, either as taxis and private hire vehicles as mentioned above, but also from private cars going to and from the many car parks serving the airport³. Journey times by car in this area are also unreliable and so many air travellers arrive at the airport much earlier than they need to, leading to more demand for car parking space. Many of these car users would use public transport to access the airport if it were available to them. However, the lack of southern or western rail routes at present, mean that more journeys are made by car now to the airport than would otherwise be the case. Providing these southern and western rail routes therefore will have a big impact on traffic congestion in and around the airport, and consequently on air quality..
- 5.10 Rail services also have a direct role in air quality in London. It is notable that the rail routes used most frequently by diesel trains in London stand out as pollution

¹ Reproduced with permission of the Low Carbon Vehicle Partnership

² Low emission bus guide: <http://www.lowcvp.org.uk/resource-library/reports-and-studies.htm>

³ http://www.londontravelwatch.org.uk/documents/get_job?id=3894&field=file

hot spots. This is despite most routes and local train services being operated by electric trains. This highlights the need to support the electrification of routes outside of London to reduce the need to use diesel trains within London. Examples of this would be the completion of the previously agreed Great Western, Midland Main Line and Selby to Hull routes, and to press for a commitment to the electrification of lines between Hurst Green and Uckfield, Crewe and Chester, Nuneaton and Birmingham, Ipswich and Felixstowe. Electrification of these lines would materially reduce the need for operation of diesel trains to and from London.

- 5.11 Some of the proposals will take a number of years to implement and will be costly. Some others could be introduced much more quickly. The extension of the operating hours of the congestion charging zone, more controlled parking, 24/7 bus priority and higher levels of bus priority on all the routes buses use are all policy interventions that would have a significantly beneficial effect on local air quality derived from road transport.

6 London TravelWatch Priority

- 6.1 Providing reliable, frequent and affordable public transport is a concern for transport users in London. Providing this will have a significant impact on the quality of air.

7 Equalities and inclusion implications

- 7.1 There are no particular equalities or inclusion implications arising from this report

8 Legal powers

- 8.1 Section 252B of the Greater London Authority Act 1999 Act requires London TravelWatch (as the London Transport Users Committee) to consider, and where it appears to it to be desirable, to make recommendations with respect to any service or facility provided by or for users or potential users of railway services provided wholly or partly within the "London railway area" as defined under the provisions of the Railways Act 1993.

9 Financial implications

- 9.1 There are no financial implications for London TravelWatch arising from this report.

10 Recommendation

- 10.1 That members note the report