

READING BOROUGH COUNCIL

REPORT BY DIRECTOR OF ENVIROMENT AND NEIGHBOURHOOD SERVICES (DENS)

TO:	LICENSING APPLICATIONS COMMITTEE		
DATE:	28 September 2016	AGENDA ITEM:	5
TITLE:	HACKNEY CARRIAGE VEHICLE EMISSIONS		
LEAD COUNCILLOR:	CLLR GITTINGS	PORTFOLIO:	CULTURE, SPORT AND CONSUMER SERVICES
SERVICE:	PLANNING DEVELOPMENT & REGULATORY SERVICES	WARDS:	BOROUGHWIDE
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**1. PURPOSE AND SUMMARY OF REPORT**

- 1.1 To consider and approve the proposed changes to the existing emissions policy and introduce a phased upgrade to the Hackney Carriage (HC) vehicle fleet.

**2. RECOMMENDED ACTION**

- 2.1 Members approve the proposed time scale for the introduction of higher emission standards within the licensed Hackney Carriage fleet as detailed in 5.1.

**3. POLICY CONTEXT**

- 3.1 Under the Environment Act 1995, Reading Borough Council has a duty to constantly review and assess the air quality within its borough, and compare pollution concentrations against a set of European and National air quality standards. Monitoring has shown that Reading has areas where concentrations of Nitrogen Dioxide (NO<sub>2</sub>) are exceeding both European and national standards, and as such Reading Borough Council has declared an Air Quality Management Area (AQMA) and implemented an Action Plan. The Council's Action Plan includes proposals to investigate ways to reduce emissions from the local Hackney Carriage and Private Hire fleet.

- 3.2 The Council's air quality action plan July 2016 states: The revised Air Quality Action Plan contains measures to improve air quality across Reading, specifically targeting action on the key pollutants of concern - Nitrogen Dioxide and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>).
- 3.3 The Council has adopted the London Public Carriage Office (PCO) conditions of fitness as policy. This currently restricts the HC fleet to purpose built London Taxis International (LTI) vehicles, the now out of production Metrocab or the Mercedes Vito taxi. The PCO currently has a Euro 5 emissions standard and 15 year age policy in place.
- 3.4 Euro 4 concentrates on cleaning up emissions from diesel cars, especially reducing particulates matter (PM) and oxides of nitrogen (NOx).

Euro 5 further tightens the limit on particulate emissions from diesel engines and all diesel cars need particulates filters to meet the new standard, there is some tightening of the NOx limits, a 28% reduction compared to Euro 4, Euro 5 introduces a limit on particle numbers for diesel engines in addition to the particle weight limit.

Euro 6, standard imposes a further, significant reduction in NOx emissions from diesel engines (67% reduction compared to Euro 5). Some vehicles are fitted with Exhaust Gas Recirculation systems, these systems reduce the amount of nitrogen available to be oxidised during combustion.

The technical details of what each of the Euro standards means are provided in Appendix 1.

## 4 THE CURRENT POSITION

### 4.1 Current Position

- 4.2 On 27 September 2011 the Licensing Applications Committee resolved to agree a HC vehicle Age and Emissions Policy. The policy set out measures to reduce exhaust emissions from HC vehicle which included the removal of the oldest vehicles from the fleet, the introduction of an upper age limit for vehicles of over 20 years and retrofitting emission abatement systems to sections of the fleet to improve their reduction in emissions output.
- 4.3 Prior to the policy going before Committee a consultation was carried out with the HC trade. Reading Taxi Association and Reading Cab Drivers Association were supportive of the proposed policy, with the proviso that Euro 2 emission standard vehicles capable of being converted to Euro 3, were permitted to do so and that the related implementation timescales were reasonable in terms of ability to absorb the additional associated costs.

- 4.4 In recognition of this request it was agreed by Committee that by 1 October 2013, all Euro 2 compliant vehicles either be removed from the fleet or where applicable retrofitted with an emissions abatement system compliant with the Euro 3 standard; hence establishing a two year lead in time.
- 4.5 Vehicles new to the fleet after 1 October 2013 which met the general requirements of the Policy and which did not have the original engine fitted at manufacture, be permitted to have an engine that was Euro 3 compliant or better fitted, or had been retrofitted with an emission abatement system to achieve Euro 3 standard or better.
- 4.6 Three years have now passed since the introduction of the Euro 3 standard, to the HCV fleet. In order that HC vehicle owners are better placed to plan and finance their vehicle replacements, a set of target dates indicating when the new emissions standards commence will assist business planning.
- 4.7 Transport for London (TFL) Policy requires all new HC vehicles to be Euro 5 and have zero emissions by 2020. No HCV are permitted to be over 15 years old.
- 4.8 The HC vehicle fleet in Reading is Euro 3 compliant, 129 vehicles are Euro 4, two vehicles Euro 5 and 1 Euro 6. The existing vehicle upper age policy of 20 years will remove 7 HC vehicles by 2018.

## 5. THE PROPOSAL

### 5.1

- All Hackney Carriage Vehicle Euro 4 or equivalent by 1 October 2018
- All Hackney Carriage Vehicle Euro 5 or equivalent by 1 October 2021
- No Euro 5 or 6 Hackney Carriage Vehicles are permitted to be over 15 years

- 5.2 The move to a Euro 4 or equivalent standard by 1 October 2018 will require 90 HC vehicles to be upgraded (report carried out June 2016), under the 20 year age policy this would have been 7 HC vehicles. In the past 12 months 20 HC vehicles have moved from Euro 3 to Euro 4. In setting out a number of confirmed dates for upgrading vehicles, HC vehicle owners will be better able to plan and finance the replacement of their HC vehicles and may in some cases choose to move to Euro 5 in 2018.

## 6. COMMUNITY ENGAGEMENT AND INFORMATION

- 6.1 This matter has been raised with the trade bodies, trade members and their representatives consulted. The closing date for comments was 31 August 2016.
- 6.2 We have received a number of comments from various sources, Appendix II details a number of response's from members of the public and Hackney Carriage owners. Appendix III details a reply from R Jarvis the council's senior technical officer responsible for emissions in Reading. Appendix IV details a letter sent by the chair of the Reading Taxi Association.

## 7. CONTRIBUTION TO STRATEGIC AIMS

7.1 The implementation of measures specified in the Air Quality Action Plan contributes to the strategic aims:

- To develop Reading as a green city with a sustainable environment and economy at the heart of the Thames Valley
- To promote equality, social inclusion and a safe and healthy environment for all

## **8. LEGAL IMPLICATIONS**

8.1 The Local Government (Miscellaneous Provisions) Act 1976, section 47 (1) states that a District Council may attach to the grant of a licence of a hackney carriage under the Act of 1847 such conditions as the district council may consider reasonably necessary. Section 47 (2) states that without prejudice to the generality of the foregoing subsection, a district council may require any hackney carriage licensed by them under the Act of 1847 to be of such design or appearance or bear such distinguishing marks as shall clearly identify it as a hackney carriage. Section 47 (3) states that any person aggrieved by any conditions attached to such a licence may appeal to a magistrates' court.

## **8. FINANCIAL IMPLICATIONS**

8.1 None.

## Appendix I

[https://www.theaa.com/motoring\\_advice/fuels-and-environment/euro-emissions-standards.html](https://www.theaa.com/motoring_advice/fuels-and-environment/euro-emissions-standards.html)

### Euro 3 (EC2000)

January 2000 (January 2001)

Euro 3 modified the test procedure to eliminate the engine warm-up period and further reduced permitted carbon monoxide and diesel particulate limits. Euro 3 also added a separate NOx limit for diesel engines and introduced separate HC and NOx limits for petrol engines.

#### Euro 3 emission limits (petrol):

- **CO** - 2.3 g/km
- **HC** - 0.20 g/km
- **NOx** - 0.15
- **PM** - no limit

#### Euro 3 emission limits (diesel):

- **CO** - 0.64 g/km
- **HC+ NOx** - 0.56 g/km
- **NOx** - 0.50 g/km
- **PM** - 0.05 g/km

### Euro 4 (EC2005)

January 2005 (January 2006)

Euro 4 (January 2005) and the later Euro 5 (September 2009) concentrated on cleaning up emissions from diesel cars, especially reducing particulate matter (PM) and oxides of nitrogen (NOx).

Some Euro 4 diesel cars were fitted with particulate filters.

#### Euro 4 emission limits (petrol):

- **CO** - 1.0 g/km
- **HC** - 0.10 g/km
- **NOx** - 0.08
- **PM** - no limit

#### Euro 4 emission limits (diesel):

- **CO** - 0.50 g/km
- **HC+ NOx** - 0.30 g/km
- **NOx** - 0.25 g/km
- **PM** - 0.025 g/km

### Euro 5

September 2009 (January 2011)

Euro 5 further tightened the limits on particulate emissions from diesel engines and all diesel cars needed particulate filters to meet the new requirements. There was some tightening of NOx limits too (28% reduction compared to Euro 4) as well as, for the first time, a particulates limit for petrol engines - applicable to direct injection engines only.

Addressing the effects of very fine particle emissions, Euro 5 introduced a limit on particle numbers for diesel engines in addition to the particle weight limit. This applied to new type approvals from September 2011 and to all new diesel cars from January 2013.

#### **Euro 5 emission limits (petrol):**

- **CO** - 1.0 g/km
- **HC** - 0.10 g/km
- **NOx** - 0.06 g/km
- **PM** - 0.005 g/km (Direct Injection only)

#### **Euro 5 emission limits (diesel):**

- **CO** - 0.50 g/km
- **HC+ NOx** - 0.23 g/km
- **NOx** - 0.18 g/km
- **PM** - 0.005 g/km
- **PM** -  $6.0 \times 10^{11}$ /km

## **Euro 6**

### **September 2014 (September 2015)**

The Euro 6 standard imposes a further, significant reduction in NOx emissions from diesel engines (a 67% reduction compared to Euro 5) and establishes similar standards for petrol and diesel.

Exhaust Gas Recirculation (EGR) - replacing some of the intake air (containing 80% nitrogen) with recycled exhaust gas - reduces the amount of nitrogen available to be oxidised to NOx during combustion but further exhaust after treatment may be required in addition to the Diesel Particulate Filters required to meet Euro 5.

Euro 6 diesel cars may also be fitted with:

- A NOx adsorber (Lean NOx Trap) which stores NOx and reduces it to Nitrogen over a catalyst
- Selective Catalytic Reduction (SCR) which uses an additive (Diesel Exhaust Fluid (DEF)/AdBlue) containing urea injected into the exhaust to convert NOx into Nitrogen and water.
- The use of Cerium, a fluid injected into the fuel tank each time the vehicle is refuelled which assists the DPF regeneration by lowering the temperature needed for regeneration.

#### **Euro 6 emission limits (petrol):**

- **CO** - 1.0 g/km
- **HC** - 0.10 g/km
- **NOx** - 0.06 g/km
- **PM** - 0.005 g/km (Direct Injection only)
- **PM** -  $6.0 \times 10^{11}$ /km (Direct Injection only)

#### **Euro 6 emission limits (diesel):**

- **CO** - 0.50 g/km
- **HC+ NOx** - 0.17 g/km
- **NOx** - 0.08 g/km

- **PM** - 0.005 g/km
- **PM** -  $6.0 \times 10^{11}$ /km