

REGULATORY IMPACT ASSESSMENT: LOCAL AUTHORITY ROADSIDE VEHICLE EMISSIONS TESTING SCHEME

PURPOSE AND INTENDED EFFECT OF THE MEASURE

Issue

1. This Regulatory Impact Assessment has been prepared on the proposals to:

- extend powers to local authorities in Wales enabling them to check compliance with vehicle emissions standards at the roadside; and
- make it an offence to leave a vehicle engine running unnecessarily while a vehicle is stationary.

Separate arrangements are being made in England and Scotland.

2. Motor vehicles continue to contribute unnecessarily to air pollution by exceeding prescribed emissions standards. Though successive annual decreases have been achieved in vehicle emissions since 1991, the problem still persists despite the high level of enforcement carried out by examiners from the Vehicle Inspectorate Executive Agency (VI).

3. In addition to the roadside testing regime conducted by the VI – which has been in operation since November 1994 – City and County of Swansea Council, along with six local authorities in England and Scotland¹, has been involved in a trial scheme since January 1998 giving it the authority² to carry out roadside emissions tests. It was recognised that local authorities were best placed to assess and deal with local needs arising from perceived pollution problems.

4. This argument for more localised testing was reinforced by the 1999 National Audit Office (NAO) Report³ into vehicle emissions testing which concluded that a significant proportion of vehicles in Britain – between 10% and 20% - exceed legal emissions limits. This is despite the fact that the emissions performance failure rate for cars at annual MOT tests is only around 5%. The apparent discrepancy between in-year and MOT failure rates is generally explained by wear and tear, a failure on the part of some motorists to do other than the bare minimum to maintain their vehicles and because many vehicles are serviced prior to the MOT test. This is why it is important for there to be a

¹ Birmingham, Bristol, Canterbury, Middlesborough, Westminster and Glasgow

² Road Traffic (Vehicle Emissions) (Fixed Penalty) Regulations 1997. No. 3058.

³ “National Audit Office”; Vehicle Emissions Testing, HC 402 Session 1998-99, 6 May 1999.

localised mechanism to encourage motorists to maintain their vehicles properly throughout the year.

Objective

5. The primary objective of roadside testing is to improve air quality by encouraging regular servicing of vehicles. The trial scheme was established to give motorists a clear incentive to look after their vehicles properly, not with a view to “catching” individual offenders. The main air quality benefits come from this deterrent effect and the consequent improvement in maintenance across the vehicle fleet, rather than the relatively small improvements arising from bringing the vehicles that breach prescribed standards back to the required emissions levels.

Risk Assessment

6. There is no simple means of estimating the risk to the individual of road transport pollution. However, as an indication of the scale of the risk posed by air pollution in general, a study by the Committee on the Medical Effects of Air Pollutants (COMEAP) published⁴ in January 1998 suggested that each year the deaths of between 12,000 and 24,000 vulnerable people have been brought forward. In addition, between 12,000 and 24,000 hospital admissions and re-admissions may be associated with short-term exposure to certain pollutants from all sources, including transport. The study also concluded that long-term exposure to air pollution is likely to damage health. This imposes a considerable cost on the NHS and, because of lost productivity, on the economy. The problem tends to be worse in inner cities where it exacerbates a poorer quality of life and increased social deprivation.

7. Results⁵ of targeted vehicle emissions enforcement carried out at the roadside by the VI in 1999/00 show that approximately 2.7% of petrol and diesel vehicles (passenger cars, light goods vehicles and taxis) checked breached prescribed emissions standards.

8. If the emissions performance results were extrapolated to encompass the total number⁶ of passenger cars, light goods vehicles and taxis in Britain - about 27 million - it is estimated that about 730,000 vehicles could be breaching prescribed emission standards. An exhaust emission check is a valuable tool for the identification of faulty engines and associated fuel delivery and emission control systems. The identification, removal and ultimately the repair of vehicles will result in an overall improvement in most of the emissions associated with these vehicles.

BENEFITS

⁴ Committee on the Medical Effects of Air Pollution; Quantification of the Effects of Air Pollution on Health in the United Kingdom, January 1998.

⁵ Vehicle Inspectorate; Effectiveness Report 1999/2000.

⁶ Department of the Environment, Transport and the Regions; Vehicle Licensing Statistics, 1999.

9. The benefits of improved air quality generally are considerable: principally in terms of health, but also protection of ecosystems and vegetation, better protection to buildings and materials and improved quality of life. Improvements in ambient air quality also have indirect additional benefits in terms of other environmental policies, such as acidification, noise policy and climate change.

10. For those primary and relatively stable pollutants emitted from vehicles such as carbon monoxide, hydrocarbons and a proportion of particulate matter, reduced emissions will be reflected in reduced atmospheric concentrations⁷. The NAO report also highlighted research and analysis carried out by the European Commission, which provided broad estimates of the impact of emissions testing and associated vehicle maintenance on emissions levels. This work found that the current test leads to a 15% reduction in non-catalyst petrol cars' emissions of carbon monoxide, and a 5% reduction for catalyst cars. For diesel vehicles the current test reduced emissions of particles comprising both visible and fine particles by 25%. The report also provided estimates of reductions of hydrocarbons and nitrogen oxides.

Benzene, 1,3-butadiene and Carbon Monoxide

11. The majority of vehicles on Wales' roads are petrol vehicles that are tested for emissions of carbon monoxide and hydrocarbons (benzene, 1,3-butadiene). There is plenty of hard quantitative evidence of the carcinogenic effects of these pollutants from occupational exposure, but a lack of data relating to environmental exposure. Present policy is that the former should not be used for quantification of effects of environmental exposures. COMEAP are intending to investigate methods of assessing the size and the effect of environmental exposures as part of a future report on air pollution and cancer.

12. The effects of carbon monoxide on the oxygen carrying capacity of haemoglobin and consequent effects on the heart are well known. However, effects on cardiovascular performance at the low levels of carbon monoxide present in the environment are less well established. There is a lack of UK studies (only one recent study in London is available), and uncertainty regarding the effect of carbon monoxide alone as compared with that of the urban pollution mixture. Additionally, fixed site monitors may reflect distribution of exposure in the population to carbon monoxide less well than for other pollutants. Health experts therefore consider that the evidence cannot be used for quantification. However, evidence is accumulating rapidly and assessment might be possible soon.

13. Introducing additional measures to alleviate vehicle emissions is vital if the problems are to be addressed. Though pollution from road traffic has fallen considerably since the early 1990s despite traffic growth, the trend of declining emissions is expected to slow down around 2010, stop around 2020, and then

⁷ Source: as for 3.

slightly reverse as engine and fuel improvements are offset by continuing traffic growth⁸.

OPTIONS

14. Three options have been identified to enforce compliance:

Option 1 - continue to rely on the VI solely to carry out vehicle emissions enforcement;

Option 2 - legislate so that local authorities with traffic related air pollution problems that have led to the declaration of an Air Quality Management Area (AQMA) may opt to carry out vehicle emissions enforcement through a system of fixed penalty notices, thus complementing the enforcement already carried out by the VI; or

Option 3 - legislate so that all local authorities may carry out vehicle emissions enforcement in the manner outlined in option 2.

After detailed consideration the Welsh Assembly Government believes that option 2 – to legislate so that local authorities may opt to carry out vehicle emissions enforcement – is the most appropriate.

ESTIMATING THE IMPACT OF THE OPTIONS

15. The three options impact on the risk estimate as follows:

Option 1

16. In 1998/99 the cost of the VI's roadside emissions testing was approximately £0.5 million throughout Britain. The risk estimate remains unchanged, because under this option the current level of enforcement is maintained. It could not be increased unless there was a corresponding reduction in one of the VI's other enforcement activities. There is, therefore, no increased benefit associated with this option.

Option 2

17. It is anticipated that those local authorities designated as traffic related AQMAs - expected to be up to six in Wales - would opt to carry out emissions enforcement. With the proposals we envisage that the majority of motorists would have their engine suitably adjusted to bring it within the legal limits, particularly as the incentive will exist whereby the fixed penalty notice can be reduced by 50% or waived completely. In addition, through an education process, motorists generally might take more responsibility for their vehicle maintenance with a consequential reduction in emissions levels.

⁸ DETR; The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working Together for Clean Air, Cm 4548, SE 2000/3, NIA 7, January 2000.

Option 3

18. This option would enable any local authority to carry out emissions testing if it chose to do so. It is estimated that at most an average authority (including those in both urban and rural areas) might expect to test 4,000 vehicles per annum and levy a fixed penalty notice in 5% (200) of cases. The same scenario as in option 2 would apply, but would differ in two ways:

- (i) traffic levels would not be consistent across Wales - in practice individual urban and rural authorities would not carry out the same number of checks with the same results; and
- (ii) the risk to the total population is likely to be lower than to the urban population alone.

QUANTIFICATION AND VALUATION OF THE BENEFITS OF EACH OPTION

19. A summary of the estimated costs is attached at Annex 1. The compliance costs for motorists should arguably be zero because the proposal imposes no new burdens on them - that is, it is already an offence to use a vehicle which does not comply with prescribed emissions standards. The effect of the proposal is to enable more emissions enforcement to be carried out by extending the powers of checking to local authority trained personnel.

20. An estimate could be made of costs to businesses to comply with the new level of enforcement. This would depend directly upon the number of offences detected. However, there is no clear-cut way of estimating the number of businesses that could be affected by the measure. Businesses could significantly reduce the burden of compliance costs provided they ensured that:

- (i) they operated or hired vehicles which were always maintained fully in accordance with the manufacturer's recommendations; and
- (ii) their employees were given proper enforceable instructions to prevent them leaving vehicles with their engines running unnecessarily.

Option 1

21. There would be no further costs to business, consumers or government.

Option 2

22. Motorists whose vehicles fail the roadside test, applied with a 10% tolerance over annual test standards, would have the choice of rectifying their vehicle, paying the fixed penalty of £60 or disputing their offence in court. The following reductions are also proposed:

- a fixed penalty would be reduced by 50% if

- the emissions defect was corrected within 14 days (and this fact was corroborated by means of an approved emissions test);
 - at any time in the preceding 6 months the vehicle had passed an approved emissions test;
 - it can be demonstrated to the local authority's satisfaction that all reasonable steps had been taken to maintain the vehicle to the required standard
- a fixed penalty would be waived altogether if the emissions defect was corrected within two weeks AND the vehicle had passed an approved emissions test within the preceding six months or it could be demonstrated to the local authority's satisfaction that all reasonable steps had been taken to maintain the vehicle to the required standard.

Based on the results of the trial scheme⁹ we estimate that an urban authority could expect to test up to 4,000 vehicles per annum, assuming 200 testing days, and levy a fixed penalty notice in approximately 5% (200) of cases. On an annual basis, it is estimated that the maximum total cost to businesses and private motorists in six local authority areas would be £72,000 (1,200 fixed penalty notices at £60 each). This would be lower if the proposed concessions are introduced.

Option 3

23. If each of the 22 local authorities in Wales conducted roadside testing 200 days per annum levying fixed penalties in 5% of cases, we estimate that the maximum total cost to the motorist would be in the region of £264,000. However, even if the powers were made available to all local authorities, only a small number would actually take them up. Total costs to the motorist would therefore in reality be considerably less than this figure.

TOTAL COMPLIANCE COSTS TO LOCAL AUTHORITIES

24. Under the proposals, it would not be mandatory for local authorities to carry out vehicle emissions enforcement - although to do so would incur recurring compliance costs. There would be no non-recurring costs. The compliance costs would depend upon the amount of enforcement activity an individual local authority chose to carry out and we can offer no accurate indication on the likely level of enforcement by individual authorities. For the purposes of this assessment, it is assumed that a local authority would use two personnel for 200 days a year comprising 6/7 hours of enforcement activity on each day. The recurring costs would fall into several categories: staff training; purchasing testing equipment - and paying for its routine servicing and calibration; purchasing/hiring other equipment; paying for police support; all staff costs for carrying out enforcement; and, all administrative costs - including taking prosecution action.

⁹ DETR analysis of the operation of the trial scheme, April 2000.

25. The costs have been broken down into separate items and are listed at Annex 2. In summary, the combined basic annual recurring cost to each participating authority would be approximately £124,977, before taking any fee income into account. Should those authorities designated as traffic related AQMAs be given the powers – probably six – the total cost to all participating authorities per annum would be **£749,862**. If these powers were extended to all 22 local authorities, the total cost per annum would be **£2,749,494**.

POLITICAL CONSIDERATIONS

26. Authorities need a range of tools available to them to help them meet local air quality management targets since no single measure is likely to be sufficient, particularly in pollution ‘hot-spots’. Controlling vehicle emissions effectively is just one element in strategies for improving air quality.

27. Imposition of new or additional legislative burdens should be avoided unless there are clear benefits in so doing in terms of costs. This principal of deregulation is clearly relevant to the consideration of the three options identified in this regulatory appraisal.

CONSULTATION WITH SMALL BUSINESS

28. There should be no additional costs to businesses as the requirement to meet prescribed vehicle emissions limits has been in force since 1991.

OTHER COSTS

29. No other costs have been identified.

RESULTS OF CONSULTATIONS

30. The Department of Environment, Transport and the Regions consulted on the trial scheme in 1997 before it was introduced. Further consultations have been carried out in England and Scotland on extending the powers to all local authorities. In England, new regulations came into force in July 2002 restricting powers for roadside emission testing to those local authorities declaring AQMAs. In Scotland, new regulations are proposed to extend the powers to all local authorities. In Wales, a consultation exercise was carried out at the end of July 2002 with a closing date of 25 October.

SUMMARY AND RECOMMENDATIONS

31. On the basis of expected costs and benefits, option 2 is the preferred option.

ENFORCEMENT, SANCTIONS, MONITORING AND REVIEW

32. As with the current trial scheme, the new regulations will be enforced by local authorities with the assistance of the police. An estimate of the costs to

authorities for police support is given in Annex 2. No additional direct police costs are expected.

33. Procedures for the recovery of unpaid fixed penalty notices will be developed and made available to eligible local authorities.

34. The Assembly Government will monitor the impact of the new regulations and conduct periodic reviews to ascertain whether any changes to the operating procedures are necessary. The reviews will be conducted with representatives of participating local authorities, the VI, the police and the motor and manufacturer trade associations.

Declaration:

I have read the Regulatory Impact Assessment and I am satisfied that the balance between the cost and benefit is the right one in the circumstances.

Signed by the responsible Minister.....

Date.....

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**DETAILS OF COMPLIANCE COST ASSESSMENT – COST TO MOTORISTS
OF THE IMPOSITION OF A £60 FIXED PENALTY NOTICE**

Number of days of enforcement per annum	Maintaining present level of Vehicle Inspectorate Enforcement	Extending the powers to those authorities designated as an AQMA (6)	Extending the powers to all local authorities in Wales (22)
50 days	Nil	£18,000	£66,000
100 days	Nil	£36,000	£132,000
150 days	Nil	£54,000	£198,000
200 days	Nil	£72,000	£264,000

Notes:

1. These figures assume that an authority operating 200 days per annum would test 4,000 vehicles and levy fixed penalty notices in 5% (200) of cases.

2. For options 2 and 3 these figures assume that all eligible local authorities will carry out emissions testing. For option 3 it is likely that most authorities would decide not to adopt the new powers, leading to considerably lower total compliance costs.

3. Compliance costs will reduce further if motorists take advantage of the options set out in paragraph 22.

DETAILS OF COMPLIANCE COST ASSESSMENT – COST TO LOCAL AUTHORITIES

In summary, the combined basic annual recurring cost for each participating local authority would be £124,977 assuming each authority tested for 200 days of the year. The costs can be broken down as follows:

Item of Expenditure	Cost
staff training	£ 294
Purchasing testing equipment - and paying for its routine servicing and calibration (this is the annual cost based on a five year write-off period)	£ 1,752
Purchasing/hiring other equipment	£ 4,231
paying for police support	£ 49,200
all staff costs for carrying out enforcement	£ 69,000
other administrative costs	£ 500
TOTAL	£124,977

Staff Training

On staff training, the estimated costs are based on the assumption of using the Vehicle Inspectorate Training Services to train local authority staff to precisely the same standard and to follow the exact same procedure as the Inspectorate's own vehicle examiners. It is anticipated that each of the three local authorities would wish to train a minimum of 4 personnel at the outset (to provide sufficient cover to enable 2 personnel to carry out enforcement activity on 200 days each year). The minimum cost of training would be £750 plus VAT (£881) for the one day training course with a course complement of 12 personnel. As three authorities would need to train 12 people, only one training course would have to run.

Testing Equipment

The minimum testing equipment requirement for an individual local authority would be two pieces of equipment - one to check diesel engines and one to check petrol engines. The various costs relating to testing equipment are estimated as follows:

Item of Expenditure	Cost
Purchase cost of one diesel smoke check meter	£3,000
Purchase cost of one gas analyser capable of testing catalyst equipped vehicles and non-catalyst equipped vehicles	£4,800
Combined costs of annual routine servicing	£ 560
Combined costs of annual calibration	£ 400

TOTAL	£8,760
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Testing equipment is assumed to be written off after five years. Consequently, the estimated minimum annual recurring cost to local authorities of purchasing equipment would be $£8,760 \div 5 = £1,752$.

Local authorities would need to purchase other equipment to carry out enforcement work. The estimated costs are averaged from information provided in December 1995 by Westminster and Bristol City Councils. Details are as follows:

Item of expenditure	Cost
Portable power supply	$£800 \div 3$ years write off period = £ 266
Cones/signs	$£500 \div 3$ years write off period = £ 166
Protective clothing	$£400 \div 3$ years write off period = £ 133
Communications	$£500 \div 3$ years write off period = £ 166
Van	annual £2,500
Fuel	annual £1,000
TOTAL ANNUAL COSTS	£4,231

Police Support

The cost estimate for police support is an hourly rate of £41 (special duty rate) for a single officer. If police support were spread across an average six hour day, the average cost to local authorities for obtaining the support of a single constable would be £246. If 200 days of enforcement were carried out annually, the total costs of police support per authority per annum would be $£246 \times 200 = £49,200$. It should be noted that actual police costs can vary significantly between authorities and exact costs will be a matter for agreement between the local authority and the relevant police force.

Staff Costs

It is anticipated that each local authority would wish to train four personnel at the outset (to provide sufficient cover to enable two personnel to carry out enforcement activity on 200 days each year). The estimate for staff costs is however based on two full time staff and any associated costs.

Other Costs

This is to cover any administrative tasks incurred by a local authority in carrying out emissions testing.