Modernising the Taxation of the Haulage Industry

Progress report one

April 2002

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Modernising the Taxation of the Haulage Industry

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Foreword by the Rt. Hon. Paul Boateng, MP, Financial Secretary to the Treasury

In this year's Budget, the Chancellor of the Exchequer, Gordon Brown, announced how the Government will modernise the taxation of the haulage industry to deliver its Manifesto commitment to make sure that lorry operators pay towards the costs that they impose in the UK regardless of their nationality.

The Government intends to introduce a new lorry road-user charge so that lorry operators pay an amount related to the distance that they travel on UK roads. This will apply to lorry operators regardless of their nationality and therefore enable the Government to charge foreign lorry operators using UK roads for the first time. However, it will not increase taxes for the UK haulage industry. In recognition that the UK haulage industry already pays towards the costs that it imposes in the UK, the Government will introduce offsetting tax cuts for the industry at the same time as introducing the charge.

Modernising the taxation of road haulage in this way will build on other announcements in recent Budgets. The £100m Haulage Modernisation Fund and reforms to lorry vehicle excise duty demonstrate the Government's commitment to modern, competitive and environmentally-responsible road haulage.

Our decision to introduce distance-based charging followed an intensive period of consultation. I am delighted that the haulage industry, environmental organisations and other stakeholders have backed this policy. It shows how – through working together – we can achieve real reforms that bring together our concerns for the environment with the needs of the haulage industry.

INTRODUCTION

PURPOSE

1.1 In the November 2000 Pre-Budget Report, the Government first proposed to introduce a form of lorry road-user charging in the UK. The objective of the charge would be to ensure that lorry road-users in the UK contribute on a fairer and more equal basis towards the costs that they impose when using UK roads irrespective of their nationality. The Government recognised that, because UK lorry operators already contribute towards these costs, this should not involve increasing the tax burden on the UK haulage industry and so indicated that it would offer other tax reductions for lorry operators when the lorry road-user charge is introduced.

1.2 In the November 2001 Pre-Budget Report, the Government launched a consultation document *Modernising the taxation of the haulage industry – a consultation document* to seek stakeholders' views on:

- the different options for lorry road-user charging – time-based charging or distance-based charging;
- the criteria to evaluate the different options – their fairness and efficiency, impact on the Government's environment and transport policy objectives and potential to offer wider business benefits and reduce administrative costs;
- which lorry road-user charging option to introduce; and
- other aspects of the design of a charge.

1.3 In Budget 2002, the Government announced that – taking account of responses to the consultation exercise and further analysis – it had decided to introduce a distance-based lorry road-user charge. The Government aims to introduce this lorry road-user charge in 2005 or 2006.

1.4 The purpose of this document is to set out the Government's thinking on this issue, drawing on the responses to the consultation exercise and further Government analysis, and to outline the next steps.

RESPONSES TO THE CONSULTATION EXERCISE

1.5 The formal consultation period closed on 8 February 2002. Over 40 responses were received from a wide range of stakeholders including:

- haulage associations – for example, the Road Haulage Association (RHA) and Freight Transport Association (FTA);
- motoring organisations – for example, the Automobile Association (AA) and Environmental Transport Association;
- environmental organisations – for example, Transport 2000 and the Council for the Protection of Rural England (CPRE);

- general business groups – for example, the Confederation of Business Industry (CBI);
- research and academia; and
- individual companies.

I.6 A list of all respondents who were prepared to allow their response to be quoted is at Annex A. The following sections of this report incorporate views contained in responses to the consultation. A full data summary of the responses is at Annex B.

I.7 In addition, the proposals were discussed in the Road Haulage Forum and on a bilateral basis with key stakeholders.

Box 1.1: The Road Haulage Forum

The Road Haulage Forum was founded in 1999. It enables key Government Ministers, the road haulage industry associations, the Transport and General Workers Union, the Society of Motor Manufacturers and Traders and independent hauliers to meet regularly to discuss the main issues facing the road haulage industry and to agree action where appropriate. The Forum is chaired by the Minister for Transport and includes the Financial Secretary to the Treasury. It has met twelve times in three years. Successes include:

- **playing a key role in deciding how to allocate the £100 million Haulage Modernisation Fund to secure a more competitive and more environmentally-friendly haulage industry, including detailed work on options for improving driver training and launching an industry-led self-help scheme;**
- **advising on radical reforms to lorry vehicle excise duty (VED) that have brought down lorry VED rates for some of the cleanest and least-damaging lorries to amongst the lowest in Europe; and**
- **forming a united position on key elements of the EU-wide working time directive for mobile operators and working together to secure an acceptable outcome.**

The Government will continue to work closely with the haulage industry generally and the members of the Road Haulage Forum in particular. The Government will also continue to involve the Forum in taking forward its plans to introduce a distance-based lorry road-user charge.

OUTLINE

I.8 This report sets out:

- an assessment of the different options – comparing the two main options against the criteria of fairness and efficiency, their potential to help achieve environment and transport objectives, and their administrative costs and potential for wider business benefits; and
- next steps and key milestones towards implementation of a distance-based lorry road-user charge in 2005 or 2006.

2 Assessing the options

2.1 This section assesses the two main lorry road-user charging options, drawing on further analysis and the responses to the consultation exercise. Following the structure of the November 2001 consultation document, *Modernising the taxation of the haulage industry – a consultation document*, it outlines:

- the views of respondents to the consultation exercise on the **objectives and options** for the lorry road-user charge;
- the potential of each option to create a **fairer and more efficient** tax system by ensuring that lorry road-users in the UK pay towards the costs that they impose in the UK, irrespective of their nationality;
- the potential of each option to support the Government's **environment and transport** objectives;
- the potential of each option to offer **wider business benefits or affect administration costs**; and
- the Government's **conclusions**.

Objectives

Consultation responses

2.2 Over 75% of respondents to the consultation document agreed with the Government's objective to ensure that lorry road-users in the UK contribute on a fairer and more equal basis towards the costs that they impose when using UK roads irrespective of their nationality and welcomed the proposal to introduce a lorry road-user charge with offsetting tax cuts for the UK haulage industry. This proportion of respondents included both haulage associations and all haulage companies that responded.

2.3 For example, the Freight Transport Association noted that "it is a fabulous opportunity for a sea change in the system to benefit... the operator" and the Road Haulage Association noted that "a distance-based charging system has the potential to 'level the playing field' for haulage in the UK".

2.4 Although there was some disagreement over whether the Government should introduce offsetting tax cuts for the UK haulage industry – for example, several environmental organisations felt that total taxes on road haulage should increase – the Government maintains its commitment to introduce offsetting tax cuts for the industry when the new charge is introduced.

Options

Consultation responses

2.5 Over 90% of respondents to the consultation document agreed that time-based and distance-based charges were the main options for operating a lorry road-user charge. This included all haulage and rail freight associations, all general business associations and all environmental groups.

Criteria

Consultation responses

2.6 Over 85% of respondents to the consultation document agreed with the criteria proposed in *Modernising the taxation of the haulage industry - a consultation document* to assess which lorry road-user charging option to take forward. This included all haulage and rail freight associations, all motoring associations, all general business associations and all haulage and rail freight companies.

FAIRNESS AND EFFICIENCY

Objective

2.7 The Government believes that a key objective for a lorry road-user charge is to ensure that lorry road-users in the UK contribute on a more equal basis towards costs that they impose in the UK, irrespective of their nationality. However, in recognition that the UK haulage industry already pays towards this cost, the Government would ensure that this new charge did not increase costs for the UK haulage industry by making offsetting tax reductions elsewhere.

Time-based charging

2.8 A time-based charge:

- could be imposed on lorries irrespective of their nationality and would therefore be levied on foreign operators in the UK; and
- could be set-up within around two years of securing Parliamentary approval.

2.9 But, against this, a time-based charge:

- could only entail a charge of around £5 a day on lorry operators to use UK roads, given current European Community law. This would provide very little scope for ensuring that lorry operators pay towards the true costs that they impose regardless of their nationality because it would not enable a significant shift in the burden of taxes on road haulage from taxes that affect predominantly those that happen to be UK nationals towards taxes that affect everyone who uses UK roads; and
- does not correlate closely with the environmental and social costs imposed by lorries using UK roads. For example, two identical lorries travelling different distances will pay the same amount for a one-day time-based charge but impose different environmental and social costs in the UK.

Distance-based charging

2.10 A distance-based charge:

- could be imposed on lorries irrespective of their nationality and therefore levy a charge on foreign operators in the UK;
- could be levied at a much higher level than a time-based charge, given current European Community law. For example, Germany plans to charge around 9-12 pence per kilometre (see Annex C). At this level, any journey of more than around 35 miles undertaken on one day would incur a higher distance-based charge than under a time-based charge of around £5 per day. Although no decision on the level of a UK charge has been taken, this illustrates that a distance-based charge could be more effective in ensuring that UK and foreign hauliers operating in the UK contribute on a more equal basis towards the costs that they impose in the UK without increasing the overall tax level on the UK haulage industry; and
- would correlate more closely to the social and environmental costs that lorries impose as in many cases these costs are related closely to the distance that a lorry travels.

2.11 But, against this, a distance-based charge would take longer than a time-based charge to set-up. It is estimated that it could take up to four years to set up from securing Parliamentary approval.

Consultation responses

2.12 Over 80% of respondents to the consultation document believed that a distance-based charge offers more potential to ensure that lorry operators contribute fairly and efficiently towards the costs that they impose in the UK irrespective of their nationality. This included all haulage and rail freight associations, all environmental groups and all academic and research groups.

2.13 For example, the Road Haulage Association noted that "if we really can arrive at a long-term solution that will deliver a road price per kilometre for all, including our Continental friends, and a reduction in fuel duty to compensate all, geared to ensure the overall tax burden does not increase, then 2002 really will go down in history as the most momentous year since denationalisation. Perhaps ever" and the Confederation of British Industry wrote that "a distance-based [charge] with corresponding reduction in fuel duty would do much more to create a level playing field".

ENVIRONMENT AND TRANSPORT OBJECTIVES

Objective

2.14 The Government has set itself a number of challenging objectives for the environment and transport. It is important to consider the possible impact of each lorry road-user charging option on these objectives, given the social and environmental costs of road transport. The main environment and transport objectives that need to be considered in this context are:

- **climate change.** Road transport is a major source of carbon dioxide (CO_2) emissions. Whilst CO_2 is not directly harmful to health, it is the most important of the greenhouse gases that cause global climate change. CO_2 emissions are directly proportional to the amount of fuel consumed;
- **local air quality.** Emissions from vehicles affect the quality of the air people breathe, and have the biggest impact close to where traffic is greatest – in town and city centres and near to busy roads. Local air quality pollutants depend on the type of vehicle, its age (which is normally reflected in its emission standard) and fuel type;
- **road maintenance;**
- **safety;** and
- **traffic congestion.** Growth in traffic has led to increasing congestion on the road network, particularly in urban areas.

Consultation responses

2.15 Over 80% of respondents to the consultation exercise agreed that the Government should consider the impact of the lorry road-user charging options on these five key environment and transport objectives. This included all haulage and rail freight associations and all business associations.

2.16 In addition, several respondents highlighted the importance of considering the impact of the different options on **noise** because this can have a significant impact on people's quality of life and health. The Government will take this into account in its analysis.

Time-based charging

2.17 A time-based charge could be varied according to the weight and axle structure of the lorry, along the same lines as lorry vehicle excise duty (VED), and also according to vehicle emission standards. These variations might then provide fiscal incentives to lorry operators to use less damaging and more environmentally-friendly lorries.

2.18 But, against this, a time-based charge would:

- not relate closely to the track, environmental and social costs imposed by lorries, because these costs depend more on distance travelled rather than time. A time-based charge would make no distinction between high-mileage and low-mileage lorries. In particular, time-based charges do not necessarily follow the principle that the more the lorry is used on the road, the more costs it imposes and therefore the more the lorry operator should pay;
- not be able to provide significant fiscal incentives to use less damaging and more environmentally-friendly lorries. Under existing European Community law, the charge level for one day cannot vary according to the weight and axle structure or emission standard of the lorry and must be set at a flat rate of around £5 a day; and there is limited room for incentives within an annual charge given that the maximum charge level is only £750 a year.

Distance-based charging

2.19 A distance-based charge could be structured to help meet a wider range of policy objectives because:

- distance travelled correlates more closely with the track, environmental and social costs imposed by lorries;
- the charge could be varied by weight and axle structure of lorries and vehicle emission standards, and by the type of road and congestion variables (location and time specific).

2.20 The Government has undertaken further work to make a preliminary assessment of the potential effects and optimal design of a distance-based charge with respect to its environmental and transport objectives. The first results of this work are summarised in Boxes 2.1 and 2.2 and will be subject to further refinement and discussion with key stakeholders. The models used to produce some of this analysis are described briefly at Annex D.

2.21 The key preliminary conclusions from the modelling work and other analysis are that a distance-based lorry road-user charge:

- would reduce carbon dioxide emissions if introduced on its own or alongside offsetting reductions in lorry VED, and have negligible impacts on carbon dioxide emissions if introduced alongside offsetting reductions in fuel duty for hauliers;
- could improve local air quality if linked to vehicle emission standards;
- should be graduated by the lorry's weight and axle structure to encourage the use of less damaging lorries;
- should apply on all roads with charges designed to encourage lorries to use motorways where possible and prevent diversion onto less suitable roads that could have a negative impact on the environment, congestion, road safety and maintenance; and
- could be used to encourage lorries to travel at less congested periods when possible, for example to use motorways at night.

Box 2.1: Impact of distance-based charge on climate change

DTLR has analysed the potential impact of a distance-based lorry road-user charge on carbon dioxide emissions, the most important greenhouse gas associated with climate change.

On its own, a distance-based charge would provide an incentive for lorry operators to reduce the total number of miles travelled and, other things being equal, this would reduce the amount of fuel consumed. Given the direct proportionality between fuel consumption and carbon dioxide emissions, this would reduce carbon dioxide emissions. Furthermore, if a satellite-based system were used to administer the charge, the efficiency benefits associated with additional in-cab technology – which would facilitate better vehicle and driver utilisation (see Box 2.4) – could reduce fuel consumption by more than 10% and therefore substantially reduce carbon dioxide emissions. A satellite-based system would also allow a distance-based charge to vary according to the degree of congestion, further improving fuel efficiency.

However, any reduction in fuel duty for lorry operators to offset the distance-based charge could reduce the incentives for operators to undertake fuel-saving measures and therefore increase fuel consumption.

On balance, the reduction in carbon dioxide emissions from the incentive for lorry operators to reduce the distance travelled and from equipping lorries with satellite technology could outweigh the potential adverse impacts on fuel efficiency as a result of any reduction in fuel costs. Further work is needed to quantify the potential impacts.

Consultation responses

2.22 Over 80% of respondents to the consultation exercise believed that distance-based charging offers the most potential to contribute positively towards the Government's environment and transport objectives. This included all motoring associations, all environmental groups and all academics and research establishments. For example, the Institute for European Environmental Policy noted the ability for distance-based charging to reflect costs imposed by lorry operators better and Railfuture highlighted the potential risk that time-based charging could encourage excessive speed.

2.23 Several respondents provided views on how to vary the charge to help achieve the Government's environment and transport objectives. Most respondents wanted the charge to apply on all roads and to provide incentives to use less damaging and more environmentally-friendly lorries. For example, Transport 2000 noted that "it is very important that the charge should apply to all roads, not just the motorway network. Otherwise, there could be substantial displacement of lorry traffic onto other roads with serious consequences for road safety, community severance and environmental and road infrastructure damage".

2.24 Many respondents also wanted the charge to vary according to the time of day to help tackle congestion. For example, the Freight Transport Association noted the potential for the charging regime to provide incentives for lorry operators to "make use of safe roads at quiet times of day" and the Institute of Logistics and Transport said that "[The charge] should include road and lorry catagories as well as time of day and distance travelled to calculate charge". However, some respondents voiced caution on this aspect of the charge. The Road Haulage Assocation argued that "[lorry] operators have little choice over how, where and when to make their journeys (since this is dictated by customer requirements)".

Box 2.2: Designing a distance-based charge

A distance-based lorry road-user charge has the potential help achieve the Government's environment and transport objectives. DTLR, HM Treasury and HM Customs and Excise have analysed provisionally some of the potential effects and optimal scope of a distance-based charge, taking into account that the overall tax burden on the UK haulage industry will not increase as a result of introducing this charge.

Graduating the charge by road type

Analysis shows that it would be important to levy the charge on all UK roads and that it would be possible to vary the charge level to encourage lorry operators to use certain types of roads, for example to continue to use motorways where possible. If the charge were restricted to motorways only, there would be a serious problem of diversion. For illustration, a distance-based charge of around 16p per kilometre is forecast to reduce HGV traffic by around 25% on motorways but would increase HGV traffic by 26% on dual carriageways and by 13% on other roads. This diversion would in turn mean increases in congestion (of around 2% in London, conurbations and other urban areas), a worsening in air pollution (for example, nitrogen oxides and particulates would be increased by 2% and 4% respectively in London above what they would otherwise have been), an increase in costs due to accidents (by £45-60 million a year) and an increase in road maintenance costs (by around £90-120 million a year). There would still be significant diversion if the charges were extended to both motorways and dual carriageways.

Graduating the charge by lorry type

It would be possible to vary the charge to provide fiscal incentives to encourage lorry operators to use lorry and trailer combinations with less damaging weight and axle structures and to use less polluting lorries, in much the same manner as the current lorry VED system. If the distance-based charge was applied to all lorry types at a flat rate, the charge would not reflect the fact that, mile for mile, heavier lorries impose more costs than lighter ones and lorries meeting older emission standards produce more local air pollutants than those meeting newer emission standards. Further work is needed to assess the potential for achieving improvements in local air quality by graduating the charge according to vehicle emission standards.

Graduating the charge by congestion variables (time and location specific)

If the charge were set at the same level all day everyday, it would not reflect the fact that lorry operators impose different costs depending on the time and location of their journeys. It would be possible to vary the charge to provide fiscal incentives to encourage lorry operators to use less congested roads at less congested periods – for example, to encourage more lorry operators to travel on motorways at night. It would be important for any charges that varied according to congestion variables to be simple and clearly publicised in advance so that they had maximum impact and the haulage industry could predict accurately their costs in advance. Further analysis and discussion with stakeholders is needed in this area.

WIDER BUSINESS BENEFITS AND EFFECTS ON ADMINISTRATIVE COSTS

Objective

2.25 The Government wants to ensure that the lorry road-user charge does not create significant administrative costs for the haulage industry. The Government would also prefer to implement the lorry road-user charge in a manner that offers the widest possible benefits to end-users, particularly in the form of additional services that could be provided via new technology. The Government has therefore assessed how each lorry road-user charging option could affect administrative costs and the extent to which their introduction could offer wider benefits.

Time-based charging

2.26 A time-based charge would be likely to take the form of a paper permit. For UK-registered lorries, it could be administered alongside lorry VED with no additional administration: applications for lorry VED discs could automatically include a time-based permit allowing road usage. For foreign-registered lorries, it would be necessary to purchase a time-based permit before joining a chargeable road. The time-based permit would be available at selected outlets across Europe, on main lorry routes to the UK and at points throughout the UK.

2.27 A time-based charge would not enable the introduction of any wider value-added services, although the sale of permits at particular outlets might provide an opportunity for providing or co-locating other services for lorry operators.

Distance-based charging

2.28 To minimise administrative costs for the haulage industry, a distance-based charge would be administered electronically. There are two main technologies available: microwave-based systems and satellite-based positioning systems. These are assessed in Box 2.3. There would also need to be a paper-based system for lorry operators that use UK roads infrequently. This would probably be a paper-based "ticket", which gave the lorry operator permission to make a particular journey at a particular time, at a particular price. This ticket would be displayed on the vehicle windscreen, in the same way as a VED disc or a time-based permit.

Box 2.3: Implementing distance-based lorry road-user charging – the technology options

There are two main technologies available for distance-based charging: microwave systems and satellite-based positioning systems. DTLR is currently conducting a practical experiment in the use of both systems in Leeds.

Microwave-based systems

Microwave-based systems require the erection of transponders above or beside the road, on gantries or poles. A simple unit on the vehicle triggers the roadside transponders as it passes. The information from the transponders is collected centrally to produce a charge, which could be varied according to time, place and type of vehicle. Levying the charge would then be arranged centrally. This could involve traditional paper billing or automatic electronic debiting. There is considerable experience of the use of microwave-based systems for road-user charging. A microwave-based system would entail more roadside capital cost if it is intended to charge on all roads. It might be possible to set up a microwave-based system more quickly because the technology is simpler. However, for practical purposes there would be a constraint on the geographical area that could be covered – not least because of the aesthetic considerations in erecting gantries or poles alongside a wide range of roads, including in rural areas. It is also possible that the erection of roadside equipment would require an Environmental Impact Analysis under European Community law, which would entail delay.

Satellite-based systems

A satellite-based system would use the existing US Global Positioning System (GPS) satellite network; in due course, it could use the planned EU Galileo network but this would not be essential. A satellite-based system depends on the vehicle having the necessary on-board equipment to receive the position signals from the satellite and record details of the lorry's journey. On the basis of that information, the charge could be calculated on board the lorry, with the necessary equipment; or a communications system could be installed to transmit the information to a central charging unit. A satellite-based system can also provide valuable commercial information for the lorry operator, for example, to track the vehicle from headquarters or to warn the driver of delays and congestion (see Box 2.4). Payment of the amount due could depend on self-declaration by the operator, subject to audit checks, or automatic debiting from a pre-charged account or an ordinary bank account. Alternatively, payment could be arranged centrally. This could range from traditional paper billing to automatic electronic debiting. Satellite-based systems give much more potential than microwave-based systems because, once a lorry is fitted with the on-board equipment, a charge can be applied anywhere the lorry goes without the need for any roadside equipment. However, a satellite-based system would require the great majority of lorries to be equipped with the on-board unit.

2.29 By making use of modern technology, electronic distance-based charging could help to increase availability of a wide range of additional services for lorry operators. For example, a satellite-based system can provide advanced in-cab congestion information and journey directions and inform the control-hub about the lorry's current location.

Box 2.4: Wider benefits of satellite-based charging technology

A distance-based charge using satellite-based technology could offer a range of wider benefits to operators.

Satellite-based technology enables precise information to be communicated to both the driver and control-hub – including the location, speed and direction of travel of the vehicle, the latest traffic information and turn-by-turn route instructions. This could help lorry operators avoid congested routes, getting lost and loading/unloading delays and therefore help to achieve better vehicle utilisation and fuel economy. Evidence suggests that some fleets have already saved more than 10% in fuel costs in this way, with associated environmental benefits. It could also improve customer service.

By providing instant access to information on nearby facilities and avoiding unnecessary delays, satellite-based technology could also lead to better driving conditions and, in the event of breakdown or a minor accident, satellite-based technology could instantly provide an accurate location and liase with the appropriate emergency services or breakdown recovery provider.

Over time, the monitoring of individual vehicle and driver behaviour could help operators to improve overall business performance. Satellite-based technology could also act as a theft deterrent and help the police trace stolen vehicles.

2.30 As other countries introduce electronic distance-based charging (see Annex C), it will be important for frequent users of roads in those countries to acquire the appropriate technology in their lorries. The Government therefore intends to work with other countries to try and ensure that the different systems operating in different countries are compatible. This would help ensure that lorry operators with UK equipment would be equipped to operate in other countries that have distance-based charging without having to install additional equipment or use the more cumbersome paper-based option in those countries. The Government has already begun to discuss these issues with other countries and will continue to do so over the coming months.

2.31 The Government believes that, on balance, a satellite-based positioning system appears preferable, given that a microwave-based system would require the erection of gantries or poles over the whole road network and that a satellite-based positioning system would offer wider benefits to the haulage industry. However, this will be considered further with key stakeholders.

Consultation responses

2.32 Over 70% of respondents to the consultation exercise believed that distance-based charging offers the best combination of minimising compliance costs and creating wider benefits; less than 10% of respondents believed that time-based charging offers a better combination. Several respondents actually specified a preference for a satellite-based charging system within their support for distance-based charging.

2.33 For example, the Freight Transport Association has stated that "our twenty-first century industry must lead the exploitation of twenty-first century technology. We want a system designed for the UK and implemented in Europe" and the Confederation of British Industry said that "[we] accept that distance-based charging may have higher compliance costs, although this is preferable as it would be fairer and more effective than a time-based charge".

CONCLUSION

2.34 As announced in Budget 2002, the Government has decided that, taking into account the analysis above and the responses to the consultation document, it will introduce a distance-based lorry road-user charge.

2.35 The Government will discuss the details of the charge with key stakeholders over the next 6-12 months. Its provisional view is that the charge should:

- apply to all lorry operators, regardless of their nationality;
- apply on all UK roads;
- vary according to the characteristics of the lorry – for example, weight and axle structure and vehicle emissions standard;
- vary according to the type of road – for example, charging less for motorways; and
- have the potential to vary according to the time of day – for example, to have the potential to charge lorries less for using motorways during the night than during the day.

3 Next steps and key milestones

3.1 This section explains the next steps in setting up the distance-based lorry road-user charge and the key milestones. It outlines:

- the process for setting-up and administering the distance-based lorry road-user charge, including securing Parliament's approval; and
- the European legislative reforms needed.

Setting up the lorry road-user charge

3.2 The Government aims to set up the lorry road-user charge according to the following indicative timescale:

- **spring 2002:** Budget 2002 announces the Government's intention to introduce a distance-based lorry road-user charge and seeks legislative authority to create the legal concept of the lorry road-user charge and to enable the Government to invest money to prepare for its implementation;
- **spring 2002–spring 2003:** further analysis and discussion with stakeholders to complete a full description of how the lorry road-user charge will operate and be administered;
- **spring 2003:** announcement of further details about the lorry road-user charge and legislation to enable the procurement of the necessary systems;
- **spring 2003–spring 2006:** design and letting of supply contracts, set-up administrative systems to operate charging, testing and supply of equipment and roll-out process;
- **spring 2006:** possible go-live date.

3.3 The Government will seek to speed up this timetable to secure earlier implementation if possible and will discuss with stakeholders and key suppliers how best to achieve this.

Reforming European legislation

3.4 As the European Commission highlighted in its recent Transport White Paper, current European legislation is not conducive to effective lorry road-user charging. The Government believes that it is important to reform this European legislation to facilitate Member States that choose to do so in:

- setting lorry road-user charges that take account of both infrastructure and environmental costs; and
- charging on all roads, not just motorways.

3.5 In addition, the Government believes that it would be helpful for the Community to agree compatible technological standards for lorry road-user charging systems without holding up progress.

3.6 The Government has already discussed these issues with the European Commission and plans to pursue them further with the Commission and other Member States. Given the priority that the Government attaches to these reforms, it believes that the Community should agree changes to the existing Community legislative framework governing lorry road-user charging as a priority.

PROGRESS REPORTS AND FURTHER CONSULTATION

3.7 The Government recognises the importance of maintaining regular contact with all key stakeholders. The Government will therefore:

- discuss key aspects of the design of the lorry road-user charging systems with stakeholders on a regular basis; and
- produce regular updates on progress.

3.8 The Government intends to provide the next progress report within the next year. It will also begin to discuss details about the design of the charging systems with stakeholders later this year. In addition, the Government will provide progress reports to the Road Haulage Forum on a regular basis.

Annex A: List of Respondents

The following organisations and individuals responded to the consultation document:

Automobile Association, The (AA)

Alex Smiles Ltd

Association of Convenience Stores Ltd

Birds Groupage Services Ltd

British Vehicle Rental and Leasing Association (BVRLA)

Conferation of British Industry (CBI)

Chamberlain Transport Ltd

Charles Hewitt Ltd

Christian Salvesen Plc

Construction Products Association

Council for the Protection of Rural England (CPRE)

Countryside Agency, The

Dover Harbour Board

Dr Rana Roy – Consultant economist to EU & ECMT

English Welsh & Scottish Railway Ltd (EWS)

Environmental Transport Association

European Conference of Ministers of Transport (ECMT)

F.M.J.E. LEA

Federation of Petroleum Suppliers Ltd

Fergusons Transport Ltd

Foulger Transport Ltd

Freight Transport Association (FTA)

Freightliner Group

Institute for European Environmental Policy (IEEP)

Institute of Logistics and Transport

Intelligent Transport Society for the UK, The (ITS UK)

MUB Haulage and Waste Paper Company Ltd

National Council of Inland Transport

Prof Alan McKinnon – Logistics Research Centre

Rail Freight Group

Railfuture

Road Haulage Association Ltd (RHA)

RSM Transport Services Ltd

Stephen Plowden – Transport Planner

Society of Motor Manufacturers and Traders Ltd, The (SMMT)

TNT Express services

Transport 2000

Vodafone Group R7D-D

West Sussex Transport 2000

In addition, four respondents did not want their name to be quoted to the public.

B

Annex B: Summary of Responses

This Annex sets out a summary of responses to the consultation exercise.

Q2. Do you agree that lorry road-users should contribute towards the true costs that they impose on society and the environment regardless of their nationality, that lorry road-users in the UK should contribute on a more equal basis towards the costs that they impose and that the proposal should not involve increasing the overall tax burden for the UK haulage industry?

Yes: 33/43 (77%)

No: 10/43 (23%)

Comments

Comments in general agreed that the Government's objectives were appropriate. Particular emphasis was given to the proposal that the scheme should not distinguish between different nationalities for the basis of the charge. With regard to not increasing the overall tax level on the UK haulage industry, some respondents felt that overall tax levels should be increased to reflect more fully the environmental costs that the industry imposes on society; others, however, believed that overall tax levels on the industry should not increase.

Q3. Do you agree that the fairness and efficiency of each charging option, the impact each option has on the Government's environment and transport objectives and the potential business benefits and impact on administrative costs are the right issues to consider when deciding which type of lorry road-user charge to introduce?

Yes: 38/43 (88%)

No: 5/43 (12%)

Comments

Numerous respondents also recommended that the Government should consider the administrative and set-up costs as well as the possibility of varying the charge with other environmentally related criteria such as vehicle emissions.

Q4. Do you agree that time-based or distance-based charging are the two main options for a lorry road-user charge?

Yes: 39/43 (91%)

No: 4/43 (9%)

Comments

Overwhelmingly respondents agreed that time-based or distance-based charging were the correct options for the Government to consider. Other suggestions included an adaptation of such schemes to relate them to particular vehicle criteria such as emissions, load level and fuel type.

Q5. Which charging option do you believe offers the most potential to ensure that lorry operators contribute fairly and efficiently towards the costs that they impose in the UK regardless of nationality?

Time-based: 3/43 (7%)

Distance-based: 35/43 (81%)

Other: 5/43 (12%)

Comments

In general, respondents that ticked the other option highlighted the importance of a distance-based charging scheme being accompanied by reductions in fuel duty for hauliers. Other comments included a consensus that the equipment needed for the charging system should be interoperable with other European countries and that the costs of such a system should not be too high.

Q6. Are there any particular aspects of the design of the lorry road-user charge that would enhance its fairness and efficiency so that users contribute fairly towards the costs that they impose in the UK regardless of nationality?

Comments

Mixed comments were received regarding charging in line with congestion levels and the time of day. Although some highlighted that this should not be used as a charging criteria as hauliers already experience higher costs from congestion, others highlighted the necessity of a congestion-linked charge to reflect accurately the costs imposed to society and to encourage non-essential movement to divert to off-peak hours. Other significant comments related to the security of the scheme with regard to fraud.

Q7. Has the Government identified the main environmental and transport objectives that should be considered in this context (climate change, local air quality, road maintenance, road safety and traffic congestion)?

Yes: 35/43 (81%)

No: 8/43 (19%)

Comments

Comments in general agreed that the Government had identified the main environmental and transport objectives. Charging based on other environmental criteria such as vehicle emissions and weight were however frequently cited as additions to the scheme which would enhance the charge's link to the environmental impact of individual vehicles. In addition, several respondents highlighted the importance of considering the impact of the different options on noise levels.

Q8. Which charging option do you believe offers the most potential to contribute positively towards the Governments environment and transport policy objectives?

Time-based: 3/43 (7%)

Distance-based: 35/43 (81%)

Other: 5/43 (12%)

Comments

Comments in general highlighted that the major downfall of a time-based charge was the fact that it may lead to perverse incentives to drive longer hours and at faster speeds. Comments highlighted that a distance-based charge would be the best proxy for environmental impacts.

Q9. Are there any particular aspects of the design of the lorry road-user charge that would enhance its environmental and transport impact?

Comments

General comments in this section highlighted the need for the charge to apply to all roads in order that traffic is not just diverted away from major roads and motorways. Other comments were that the charge should be varied upon other environmental criteria such as noise, emissions and time of day; and that if this created too complex a scheme to start with, the technology should have the scope to be upgraded to incorporate new environmental impact proxies over time.

Q10. Which charging option do you believe offers the best combination of minimising compliance cost and creating wider business benefits?

Time-based: 4/43 (9%)

Distance-based: 32/43 (75%)

Other: 7/43 (16%)

Comments

General comments highlighted that many firms already employ some GPS traffic management technology in order to minimise delay due to congestion. This would mean a piece of equipment that could be added to existing systems would be beneficial to a large number of hauliers. In addition, numerous responses highlighted the need for a system that allowed very infrequent users to give odometer readings rather than fitting such hi-tech equipment.

Q11. Are there any particular aspects of the design of the lorry road-user charge that would minimise compliance costs and create wider benefits?

Comments

In general, comments highlighted the need for a system that was interoperable with other European countries' schemes. Many comments also referred to the need for electronic monitoring and the possibility of linking systems with the new digital tachograph.

C Annex C: European Lorry Road-User Charges

This Annex provides details about:

- the existing 'eurovignette' time-based charge;
- Switzerland's distance-based charge;
- Germany's plans to introduce a distance-based charge; and
- the Netherlands' plans to introduce a distance-based charge.

EUROVIGNETTE

A time-based road-user charge – the eurovignette – currently exists in Germany, Belgium, the Netherlands, Luxembourg, Denmark and Sweden. Germany has announced its intention to leave the eurovignette scheme at the end of 2002 and to replace it with distance-based charging. Other eurovignette countries could follow Germany and leave the scheme soon after.

To use motorways in any of these countries, lorry operators using lorries over twelve tonnes must buy a eurovignette paper disc. The eurovignette charges are based on EU-wide euro-emission standards (emission levels improve the higher the 'euro-standard') and the number of axles. The current charges in euros (€) are set out below:

Lorry type	less than 4 axles			4 axles or more		
Emission standard	euro-0	euro-I	euro-II	euro-0	euro-I	euro-II
1 day	8	8	8	8	8	8
1 week	25	23	25	41	37	33
1 month	96	85	75	155	140	125
1 year	960	850	750	1550	1400	1250

The eurovignette can be purchased at petrol stations, service areas, garages and lorry-stops on motorways or near motorway access roads. The eurovignette can also be purchased via trade associations, chambers of industry and commerce, road haulage co-operatives and the relevant government departments and agencies. Payment is by cash or credit card.

The eurovignette is enforced via spot checks. Penalties are linked to the time spent travelling on a motorway without the appropriate eurovignette. The maximum fine is € 5000.

SWITZERLAND

Switzerland introduced a distance-based lorry road-user charge on 1 January 2001. The charge level depends on the distance travelled, the maximum permitted weight of the vehicle (according to the vehicle documents) and the vehicle emissions standard. For example, a 34 tonne euro-II lorry pays approximately SFr 0.50 per kilometre, equivalent to approximately 20 pence per kilometre. The charge applies to all lorries over 3.5 tonnes and on all roads in Switzerland.

The charging mechanism must be turned on when entering Switzerland and turned off when leaving Switzerland. Within Switzerland, the distance travelled, maximum vehicle weight and vehicle emissions standard must all be recorded.

Swiss lorries must be fitted with an electronic On-Board Unit (OBU) that uses microwave-based technology to switch the charging mechanism on/off at the Swiss border. Within Switzerland, the OBU records all the necessary data and this is cross-checked by global positioning systems (GPS) technology where necessary. The lorry user must transfer the data on the OBU to Swiss Customs every month via an electronic chip-card and pay the charge due within 60 days.

Foreign lorries have the option of using either an OBU in the same way and under the same terms as Swiss lorries (though a deposit is needed to guarantee the payment of periodic billing) or using a manual self-declaration system with vehicle details recorded when entering and leaving Switzerland and payment according to the same charging structure at the border.

GERMANY

Germany has announced its intention to leave the eurovignette scheme on 31 December 2002 and to introduce distance-based charges in January 2003.

The new distance-based charge will apply to all lorries over 12 tonnes on German motorways and will be set according to distance travelled, the number of axles and the vehicle emissions standard. The German Government has indicated that charging levels are likely to range from €0.14 – 0.19 per kilometre, equivalent to approximately 9 – 12 pence per kilometre.

The German Government invited the private sector to come forward with bids to design, supply and operate a system. The possible options outlined by the German Government included utilising microwave-based technology to monitor distances travelled via motorway gantries or using global positioning systems (GPS) technology to record distances travelled without the need for gantries. For lorry operators that only use German motorways occasionally and do not want to fit On-Board Units (OBUs) into their vehicles, an alternative paper-based system will be set-up whereby lorry operators have to pre-book and pre-pay for their journey before joining the motorway.

THE NETHERLANDS

The Netherlands announced in 2001 its intention to set-up a distance-based charge for all vehicles on all roads. They intend to introduce it gradually from 2004 and completely in 2006.

The Dutch Government intend for the private sector to administer the system, with 'Road Service Providers' collecting and processing the data and supplying it to the Government. Although it is likely to be a legal requirement for vehicles to be fitted with the necessary On-Board Unit, these are also expected to be provided by the private sector to a common technical specification and are expected to offer additional non-tax related private services to vehicle owners, drivers and fleet managers.

The Dutch Government is currently undertaking a process of 'market dialogue' with key stakeholders.

D

Annex D: Analytical Models

A key component of the analysis used to assess the transport and environmental impacts of lorry road-user charging has been modelling the effects of distance-based charges.

Department for Transport, Local Government and the Regions (DTLR) has used a highly detailed, geographic model of freight movements (by both road and rail) around Great Britain, developed by MDS-Transmodal, to assess the initial impacts of such charges on the modes, routes, and vehicle types by which freight is moved. These results were then passed into DTLR's FORGE road network capacity model, which adjusted the road choices for any impacts of congestion, before estimating the impacts on emissions of carbon dioxide and local air pollutants from road transport, and DTLR's measure of congestion. The freight traffic impacts from the MDST model were also used as the basis for calculating the effects on accident and road maintenance costs.

The MDST model starts with information on the origins and destinations of freight consignments in Great Britain in one year (including movements to and from ports), drawn from data sources including: DTLR's Continuing Survey of Road Goods Transport (CSRGT), Origins & Destinations of International Transport, and Maritime Statistics; Customs & Excise trade data; and Railtrack freight statistics[1]. The first step taken by the model in analysing a consignment's movement is to assess whether the journey would be made by road, rail, or a mixture of the two. This is based on the results of detailed econometric modelling of mode choice for freight, and involves the differences in the generalised costs[2] between modes along different possible routes, influencing but not completely determining, the share of consignments between modes.

For road freight, the model then takes two more steps, reflecting the wider options of route and vehicle choice in sending goods by road. One is to allocate the consignment between eighteen types of HGV with different weight and axle configurations. This again uses econometric results to share the freight between HGV types partly, although not wholly, on the basis of generalised cost differences.

The final step is to select the route taken from the origin to the destination. There are a very large number of potential routes by road from any one place to another in Great Britain, but the MDST model actually calculates the generalised cost of each possible route. The consignment is allocated to the route with the lowest generalised cost, as the complex nature of the calculations currently makes it infeasible to spread the consignment between a variety of routes.

The model is consistent with the number of HGV kilometres driven in a year, both in total, and when broken down by CSRGT vehicle category. It also generates plausible allocations of traffic between the different road types, and, similarly, plausible responses to changes in the costs of using different road or HGV types.

[1] Although the Government aims to introduce the charge in 2005 or 2006, the analysis to date has been based on 2000 data.

[2] These are all the costs of sending the consignment by a particular mode and route. For example, for road freight this would include the costs of fuel, drivers' wages, vehicle maintenance and other variable costs. The model also accounts for fixed costs, such as depreciation and vehicle excise duty.

In order to take account of congestion responses by all types of road users, and to calculate environmental impacts, the MDST results were then passed into the FORGE model of road capacity. This has been documented previously (such as in the technical report to the Ten-Year Plan's background analysis) but, briefly, it models road users' responses to changes in traffic levels using elasticities of road- and time-switching, and speed-flow curves, derived from empirical research. Final traffic figures and speeds are then used to estimate impacts on carbon dioxide and local air pollutant emissions, and DTLR's measure of congestion.

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