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Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

**amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of
certain infrastructures**

(presented by the Commission)

EXPLANATORY MEMORANDUM

I. INTRODUCTION

The White Paper on European transport policy for 2010¹ concluded that one of the principal reasons for the imbalance in the transport system is that the transport modes do not in every case pay the costs for which they are responsible. The European Parliament confirmed the need for infrastructure charging when it adopted the report on the conclusions of the White Paper on 12 February 2003.

For the rail sector, infrastructure charging is already included in the first rail package. The Commission reserves the right to present sectoral directives at a later date on charging for infrastructure use in the air, waterway and maritime transport sectors. The priority now must be to concentrate on road transport, by proposing a sectoral directive to this effect. This also ties in with the wishes of the Copenhagen European Council of 12 and 13 December 2002 and of the Brussels European Council of 20 and 21 March 2003, which reiterated the call to the Commission to present a proposal on a "new Eurovignette directive" by the end of the first half of 2003 at the latest.

This proposal therefore amends Directive 1999/62/EC, the "Eurovignette" Directive. Amendment is all the more urgent as most Member States are examining the reforms needed to include the cost to society in the prices paid by infrastructure users. Some countries are planning or have already undertaken to introduce new road charging systems linked to the distance travelled.

These efforts to reform charging in the road transport sector have the merit of attempting to internalise certain transport-related costs. Ensuring freedom of movement, developing infrastructures and improving road safety all cost money. Sooner or later the cost is passed on to taxpayers, without their knowing how much it is. The public, as direct or indirect transport users and taxpayers, have the right to know what they are paying for and why. Charging could contribute to raising awareness. By improving how transport is used, this approach will also enhance competitiveness and boost the economy as a whole.

However, these isolated initiatives lead to a regulatory patchwork which exacerbates the existing fragmentation in the European Union in the field of transport taxes and charges. This gives rise to unequal treatment of operators on the various networks and hence to distortions of competition. It acts as a disincentive to investors and undermines the commercial strategies of operators, who have difficulty in anticipating charging policies and in adapting their strategies accordingly.

In the road sector, Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures² lays down certain rules defining the conditions under which user charges ("Eurovignette") and tolls may be applied. However, these rules need to be supplemented, as the national systems of tolls and user charges for infrastructure use must be aligned on common principles to ensure fair competition between operators.

¹ COM (2001) 370, 12.9.2001.

² OJ L 187, 20.7.1999, p. 42.

Charging will have all the more chance of being understood and accepted by users if it is reflected in an improvement in the quality of service offered by infrastructure managers. In certain cases, there should be scope for cross-financing of infrastructure providing an alternative to road transport, as is the case in Switzerland for example. The system's acceptability to users and public opinion will greatly depend on how the revenue is used and on the transparency of the financial circuits activated by the charging methods. If the general public can see for themselves that the revenue is used as a basis for investing in transport infrastructure networks, from whence it comes, the system will be legitimised and thus accepted. If the opposite is true, charging will become just another taxation tool, serving no specific purpose other than to boost State income. It is also essential in the context of acceptability that the Community framework serve to avoid any discrimination between the countries in the EU heartland and those on the periphery.

The Middle Ages were the only time that the owners of strategic highways were able to charge "tolls" without providing any added value or some other service in return.

Infrastructure charging on its own cannot cure all the imbalances in the transport market. However, it will provide a necessary framework enabling transport undertakings to make rational choices that take account of all the constituent parameters of transport costs in each mode. By providing a stable, predictable framework it constitutes, with the support of other instruments, one of the solutions to the problem of financing major transport infrastructure.

It is not so much the level of charges on transport as the structure of the charges and the manner in which they are applied to the various categories of user that need to change. Infrastructure fees offer the possibility of greater differentiation by vehicle type, time and place, and hence of more accurately reflecting costs in different situations without increasing the overall burden of taxes and fees in the road sector.

II. THE MAIN CHANGES TO DIRECTIVE 1999/62/EC

1. Tolls that better reflect the costs of transport

Charging for the use of road infrastructure cannot on its own solve all the transport sector's problems. There are several instruments available to reduce transport costs, ranging from regulatory measures to user fees, fuel taxes and taxes on vehicles. Infrastructure fees are thus one tool among others. They cannot replace regulation in the field of emissions, noise or speed limits. Each problem must be solved with the appropriate instruments. Moreover, there are uncertainties in the method of calculating the costs of certain transport impacts.

In these circumstances, road charges should reflect the following costs (Article 7(9)):

a. The costs of constructing, operating, maintaining, and developing the network

This category of costs, already covered by Directive 1999/62/EC, covers the cost of damage to the infrastructure and the investment costs (construction cost including, where appropriate, interest on the invested capital). The cost of damage includes occasional structural maintenance, such as renewal of the road surface, and regular annual maintenance, such as road marking and winter maintenance.

The proposal for a directive limits the construction costs that can be taken into account to those for new infrastructure, i.e. infrastructure to be built in future or which has just been built. It is necessary to avoid including in the fees any construction-related costs which have already been covered. A special provision has been included so as not to cause prejudice, with

regard to the taking into account of construction costs, to rights relating to concession contracts in existence at the time of entry into force of this proposal for a directive.

The investment costs include the costs of infrastructure to reduce the impact of noise, such as anti-noise barriers erected along certain roads.

The costs of structural maintenance are proportional to the infrastructure damage caused by the traffic. This varies as a function of axle weight. The damage is generally estimated to be equivalent to the fourth power of the axle weight. Consequently, doubling the weight multiplies by 16 the amount of damage to the road. Regular maintenance costs, although not linked to vehicle weight, reflect the intensity of traffic overall and its composition.

As there are substantial differences in the damage resulting from an increase in axle weight, the proposal for a directive provides for a classification based on four categories of vehicle; this permits a more sophisticated differentiation of tolls according to the level of damage caused (according to the maximum permissible gross laden weight, the number of axles and the suspension type).

b. The uncovered costs of accidents

Accidents are one of the most visible negative impacts of transport. Every year, more than 40 000 people are killed and over 1.7 million are seriously injured in accidents in Europe, mainly on the roads. The victims represent a cost to society running into tens of billions of euros and an incalculable human cost.

Insurance premiums already cover some of the costs of accidents, reimbursing in most cases the material damage and some of the medical costs. Tolls must include the costs that are not covered by insurance, of which part is borne by social security or by society in general.

More precisely, account should be taken of the real costs for society as a whole. These include vehicle repair and replacement costs, which are generally covered to a large extent by insurance schemes, as well as the administrative costs of the public services mobilised in the event of accidents, the costs of medical services and losses of human capital (discounted losses of productive potential) and the cost of physical damage. So as not to include the costs already internalised by insurances, it is then necessary to subtract insurance premiums and users' contributions to insurance companies.

c. Estimating costs

The costs of building, operating and maintaining infrastructure are generally fairly easy to measure. They can be deduced from the national accounts or from the infrastructure managers' accounts. With regard to accident costs, for which there are no figures as there is no market, monetary values can be derived from objective surveys. A number of studies, past or in progress, use methods that enable monetary values to be attributed to externalities.

To guarantee consistent, harmonised application of toll systems, the annex to the proposed directive contains a common methodology for calculating the various cost constituents. Average values are proposed for situations where there are no figures for the cost of accidents. Member States will be able to use these figures if they are unable to estimate accident costs sufficiently accurately. It is clear that these figures reflect the choice of a simplified method and that they can evolve in the light of more specific regional or local data. Regular updating of these figures will be an essential part of the system of monitoring transport costs.

2. A more differentiated charging system

Directive 1999/62/EC links charges only to a very small extent, or not at all, to damage to infrastructure, congestion or accident risks. Tolls offer the possibility of establishing this link by making a more sophisticated differentiation by vehicle type and time and place and hence of more accurately reflecting costs in different situations.

To establish this link, the proposal for a directive therefore gives Member States the possibility of varying tolls according to a number of factors:

- Distance travelled
- Place: accident rates differ between urban and rural areas and according to population density. In addition, harsher winter conditions increase the costs of road maintenance in certain areas.
- Infrastructure type and speed: maintenance expenditure on a motorway differs greatly from that on a trunk road. The type of infrastructure also determines the speed of the vehicles using it, which has a knock-on effect on accidents, among other things.
- Vehicle characteristics: axle weight and suspension type of heavy goods vehicles (HGVs) have a major influence on infrastructure repairs and maintenance. Engine type, energy source and emission standards (EURO standards) determine the level of air pollution. Directive 1999/62/EC already makes provision for taking account of EURO vehicle standards to vary the level of tolls. Finally, the larger the vehicles, the greater their contribution to congestion.
- Time of day and congestion level: Congestion in certain regions of Europe and along certain major arteries increased in the 1990s and this is now undermining economic competitiveness. According to the most recent study on the subject, external congestion costs due to road traffic alone represent about 0.5% of Community gross domestic product (GDP) and could reach 1% of GDP in 2010, or approximately €80 billion.

Congestion levels differ between off-peak and peak times, normal periods and the main tourist seasons. The different levels of congestion in turn generate different levels of pollution.

Differentiation according to specific roads in the network to take account of the level of congestion will be optional initially. The proposal for a directive envisages requiring Member States to vary tolls on different roads in the network from July 2008.

In practice, the fees are collected by the infrastructure managers as a condition of access to their section of the road network. This system, normally characterised by motorway toll stations, enables charges to be modulated according to vehicle characteristics or time slots, which is a first step in reflecting the external costs of transport.

In a few years' time, however, the general availability of satellite positioning systems will enable Member States to introduce charging scales that are sufficiently sophisticated to price transport operations according to time and place and so better reflect their costs at the point of use. The European Galileo system will contribute to this objective when it is taken into service in a few years' time.

3. The networks and users concerned

The Community framework for charging for infrastructure use must target the networks and users directly concerned by the internal market. It should therefore concentrate on lorries over 3.5 tonnes and the main itineraries.

a. Goods transport vehicles over 3.5 tonnes

The Eurovignette directive applies to vehicles intended exclusively for the carriage of goods by road having a total authorised laden weight of 12 tonnes or more. The proposal for a directive now makes the Community infrastructure charging framework applicable to goods transport vehicles over 3.5 tonnes. While they carry fewer goods than heavy goods vehicles, lorries with a lower carrying capacity cause damage to infrastructure and contribute directly - like a heavy goods vehicle - to the increase in congestion on the road network and the number of accidents.

It is important to note that the scope of the proposal for a directive is consistent with Community road transport legislation which is generally aimed at lorries over 3.5 tonnes. Mention can be made, for example, of Council Regulation (EEC) No 881/92 of 26 March 1992 concerning access to the market for the carriage of goods by road in the Community, Directive 98/76/EEC on access to the profession, Regulation 3820/85 and Regulation 3821/85 on driving time and rest periods, and Directive 2002/15/EC on working hours, etc.

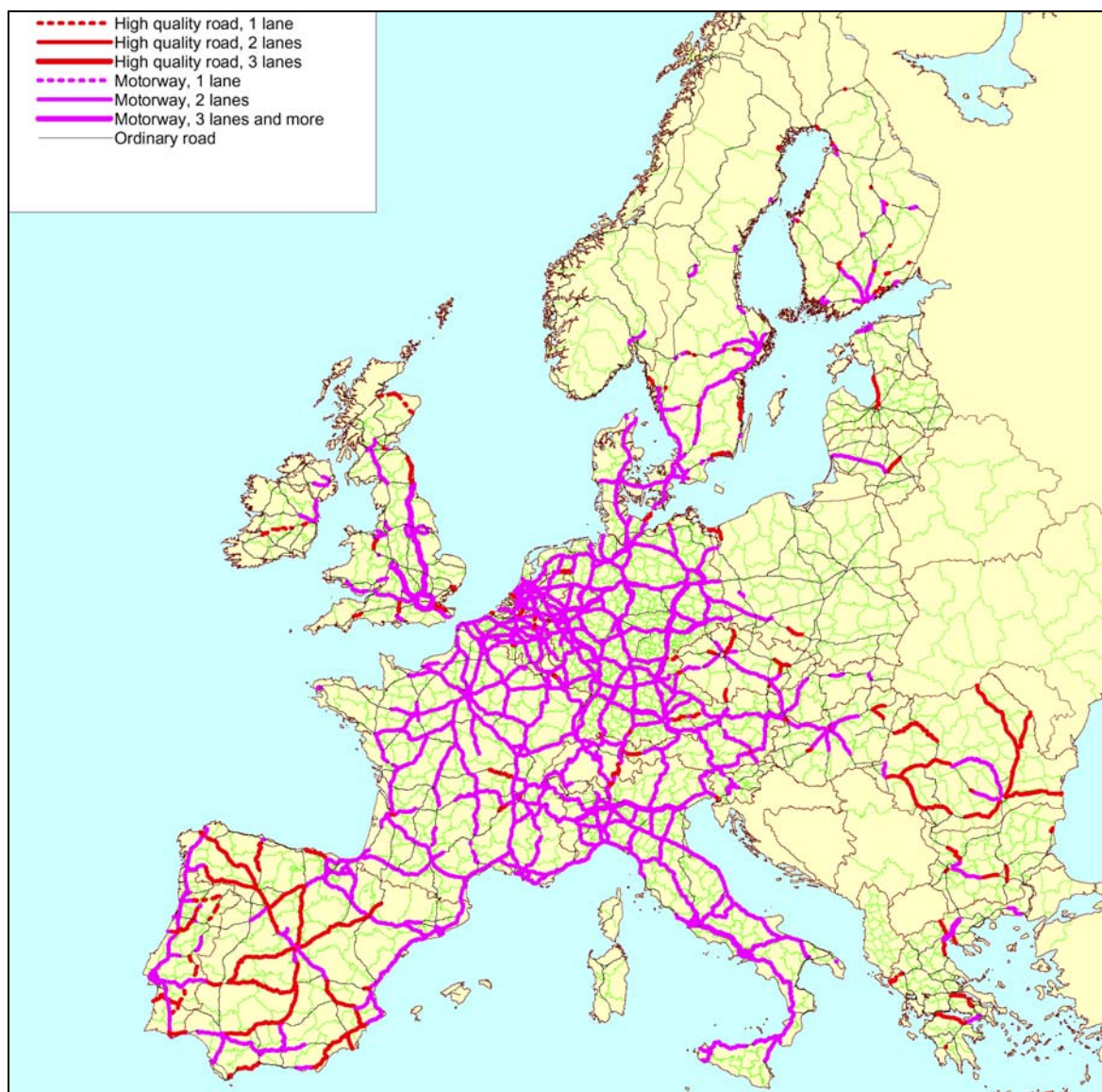
Vehicles not meeting this criterion are not covered by the directive. As a result of their very small load-carrying capacity, they rarely make intra-Community journeys.

Private cars also pose different problems. The congestion costs they generate may be considerable, particularly in an urban environment. However, car traffic is still primarily national in character, except in the tourist season. The Commission considers that Member States and cities should retain the freedom and the responsibility to develop their own approach to this category of users. If, in the framework of subsidiarity, local authorities intend to apply infrastructure user charges to passenger cars, they may of course follow the broad lines of the directive.

b. Main itineraries

This mainly concerns the trans-European transport network (TEN-T) as defined in Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network³. This network currently represents around 60 000 km of motorways and high-quality roads in the European Union (by way of a guide, see the map below of the trans-European transport network in 2001).

³ OJ L 228, 9.9.1996, p. 1.



Restricting charges to the TEN-T network could lead to traffic diverting to the parallel trunk roads or to other major roads in compact urban areas, with serious consequences in terms of traffic regulation and congestion, not to mention accidents and environmental problems. Examples of roads where this may happen include the N7 parallel to the A7 motorway between Lyon and Marseille, the N10 parallel to the A10 motorway between Bordeaux and Paris or the N II parallel to the A7 motorway between Figueras and Barcelona. It is therefore proposed to allow Member States to extend the scope of the Community framework in certain cases where a trunk road or main road closely follows the route of a motorway. The proportionality of such measures will be examined by the Commission on a case-by-case basis.

This definition of network covered by the Community framework does not prevent the Member States, in accordance with the principle of subsidiarity, from considering applying an infrastructure charging system on roads that are not part of the main itineraries. This possibility could in particular allow the accession candidate countries, whose main network is at present still limited, to apply a charging system on other roads in order to raise funds to improve their networks as a whole.

4. Using the revenue from fees

The proposal for a directive is based on the general principle that the revenue from tolls and user charges must be ploughed back into maintenance of the road infrastructure on which the tolls are levied and into the transport sector as a whole, taking due account of the balanced development of the transport networks. Consequently, there can be no question of States using this revenue in the context of their general expenditure, for example on health or education. The Commission, the Member States and the independent infrastructure supervision authority to be designated by the Member States must ensure strict compliance with this principle.

The question of the correct use of this revenue is all the more important as the proposed directive would authorise Member States to apply mark-ups to tolls in the case of roads in particularly sensitive areas, in particular in mountainous regions (Alps, Pyrenees); for such infrastructure, the proposal gives the option of including a mark-up, provided that the revenue is used to improve existing transport or to develop alternative modes of transport in the same corridor or in the same area (e.g. to build a rail link from Lyon to Turin). Unlike the system of "ecopoints" applying to transit on the whole of Austrian territory, these mark-ups on fees would in future be clearly targeted in order to promote road and other transport networks in a very specific area.

The White Paper on European transport policy for 2010 highlighted the efforts still to be made to relieve congestion on the main arteries and build the sections needed to link up the trans-European transport networks. Charging could thus have a multiplier effect for the financing of new sections within a corridor or multimodal area in particularly sensitive regions.

III. THE BENEFITS OF CHARGING

1. A more efficient market

The proposal for a directive will make a crucial contribution to improving the efficiency and productivity of the road transport sector as a whole. A Community framework for road charges will not only result in fairer prices for users, by modulating tariffs according to local characteristics, but also help establish fair conditions of competition between operators in the European Union. This competition framework will be of a nature to enhance integration of the internal market and hence the competitiveness of the European economy, by avoiding fragmentation of Community territory.

It will also provide a stable, predictable framework for charges, enabling operators to position themselves and more effectively decide their development strategy in the large market.

As the White Paper on European transport policy for 2010 points out, charging for the use of infrastructure can replace systems which ration transit rights in sensitive areas. It was the lack of an efficient system of charging for heavy goods vehicles in Europe that led Austria to introduce the "ecopoint" system for distributing transit rights, as an interim solution to the problem of the impact of heavy goods traffic in the Alps.

2. More rational use of infrastructure

Tariffs differentiated according to zones and their territorial characteristics will provide lasting encouragement to use less congested networks and cleaner, safer modes than the existing alternatives. If there is a reduction in congestion, in the number of accidents and —

by equipping heavy lorries with emission-reduction technology — in air pollution, the costs currently associated with transport will also diminish, and this in turn will boost the competitiveness of the European economy and improve the quality of life.

3. A gain for the European economy

Charging will generate savings of several tens of billions of euros yearly, owing to a reduction in time lost on congested roads, a drop in the number of accidents and improved environmental quality. Charging provides an incentive to replace polluting vehicles by more efficient, clean technologies. Other transport policy measures, such as stricter emission standards, will accentuate these positive developments.

Furthermore, this system will help reduce the overall distance travelled by encouraging the transport operators to optimise their loads and the forwarders to adapt their logistical chain.

4. Support for financing new infrastructure

The White Paper on European transport policy for 2010 highlighted the efforts still to be made to relieve congestion on the main routes and build the sections needed to link up the trans-European transport networks. The cost of building the remaining infrastructure in this network, the map of which was decided by the European Parliament and the Council in 1996, is today estimated at €600 billion as a minimum, including €100 billion in the future Member States. No solution has been found so far to funding these needs, which are well beyond the range of the Community and national budgets. Up to now, public budgets have assumed the main burden of transport infrastructure. This option is no longer conceivable and realistic today given the required levels of investment in an enlarged Europe and the current budgetary constraints.

A differentiated infrastructure charging system will generate more revenue than is the case today. These financial surpluses could create some leeway in public budgets to finance new investments in transport and hence increase the capacity of the network.

Mention should also be made of the possibility given to the Member States to increase tolls by 25% of the average toll in particularly sensitive areas in order to cross-finance other transport infrastructure of high European interest in the same corridor or the same transport area. This additional revenue, combined with concentrating the funds from all the infrastructure charges on the completion of certain axes or sections, will make a real contribution to the completion of the trans-European network.

Other instruments will contribute to this objective, in particular those mentioned in the Commission Communication of 23 April 2003 "*Developing the trans-European network*", which seeks to promote public-private partnerships and to encourage the widespread introduction and interoperability of electronic toll collection systems in the Community⁴.

5. A more transparent, less discriminatory system

Reform of the conditions governing tolls and user charges will introduce greater transparency in setting the price charged to the user. A clear economic message must be sent to users. The latter will have access to information on tariffs, enabling them to optimise journeys and to choose between the least costly itineraries or modes. If users are more aware of the levels of

⁴ COM (2003) 132 final.

costs generated and see these costs reflected in the charging system, they will be more inclined to shoulder their share of the responsibility.

Monitoring of transport costs and vigilant management of charging will also ensure the smooth functioning of the single market and avoid tariff-based discrimination. The conditions for fair, non-discriminatory charging must be transparent.

IV. SPECIFIC MEANS TO ENSURE IMPLEMENTATION

1. Compensation for the annual vehicle tax

Charging for infrastructure use is not primarily intended to raise new revenue, but rather to provide positive economic incentives for transport operations through a structure which more effectively integrates external costs and infrastructure costs in transport prices. It is also intended to facilitate investment in the road transport sector and in other transport modes, should this prove necessary.

It should first of all be noted that this proposal for a directive is based, as regards the basis for calculating tolls, on the total infrastructure costs (construction, operation and maintenance costs). The proposal for a directive also adds to this calculation basis the costs of accidents, while allowing the tolls to be differentiated according to certain environmental and congestion costs.

In order to offset the financial burden involved as a result of introducing an infrastructure charging system, the proposed directive would allow Member States to compensate for the introduction of tolls and/or user charges by reducing the annual vehicle tax (road tax harmonised by Directive 1999/62/EC). The annual vehicle tax is based on vehicle ownership and not on use. It is calculated in the form of a single amount, once per year. Charging for infrastructure use may replace this tax, partially or totally, by new, fairer rules permitting the introduction of fees that more accurately reflect the costs of infrastructure use. These fees will henceforth be calculated on the basis of the distance travelled, modulated according to vehicles' environmental performance (EURO standards, as already provided for in the existing Directive), their axle weight, congestion levels and the number of accidents on the network.

With regard to the consequences which establishing such a system may have on the road sector, the Commission could examine the conditions for implementing provisions making it possible to harmonise certain contract clauses in order to protect carriers vis-à-vis consignors. This possibility, which was envisaged in the Commission White Paper on transport policy for 2010, could allow carriers to revise their rates, where appropriate, in the event of a significant increase in their costs as a result of the establishment of infrastructure-charging systems in the Member States.

2. The technical systems for charging for infrastructure use

The most common fee collection systems require vehicles to stop at toll stations, which inconveniences users and can cause major delays. In this respect, the Directive states that Member States must take the necessary measures to ensure that charges are collected in a manner which causes the minimum hindrance to the traffic flow and obviates any mandatory check at the Community's internal frontiers.

The introduction of a new infrastructure charging system should take advantage of new technologies. The latter already support systems which permit automatic payment, register the distances travelled and technical characteristics of vehicles and trace their routes with the aid

of satellite radio navigation. They therefore offer the possibility of implementing charging policies with much greater differentiation in time and space, at a much lower cost than traditional systems.

However, there is a risk that the development of electronic fee collection systems using different technologies will create new, artificial barriers in a unified Europe and present unacceptable difficulties to drivers. It is of prime importance to make these systems interoperable Europe-wide in order to avoid such an eventuality. To this end, the Commission adopted a proposal for a directive on 23 April 2003 concerning a European electronic fee collection system, which will help create conditions more favourable to the rational use of the trans-European transport networks. The proposal seeks to establish a European electronic fee collection system to ensure that payment systems in the internal market are interoperable. This system should make it possible to reduce congestion, improve traffic flows and limit cash transactions at toll stations. Users will be able to subscribe to all the operators of the different parts of the network. The proposal requires the operators of the fee collection systems to provide this service from 1 January 2005 for all vehicles over 3.5 tonnes.

The latest systems being installed no longer require vehicles to slow down as they approach toll stations. They are based on short-range microwave communication technologies requiring the installation of vehicle on-board units that communicate with external beacons in order to identify the vehicle and carry out the financial transactions. Experience with this has opened the way to the development of systems which primarily communicate with a set of satellites rather than terrestrial beacons (GPS today, Galileo in future), making it possible to locate a given vehicle at all times, to know the routes travelled and to calculate the charge due, with payment being effected by mobile telephony (GSM).

3. An independent infrastructure supervision authority

Charging for road infrastructure should go hand in hand with the creation in each Member State of an independent infrastructure supervision authority whose main tasks would be:

- to oversee the operation of the national charging systems in a manner guaranteeing transparency and non-discrimination between operators;
- to verify that the financial resources from tolls and charges for infrastructure use will be ploughed back into the transport networks, in conformity with the proposed directive. Steps must be taken to avoid the financial surpluses being diverted to other investments which do not benefit the transport sector.

The proposal for a directive does not leave the allocation of financial resources to chance. It provides for using the revenue to maintain the road network and for sustainable projects in the transport sector;

- to promote synergies between the different sources of funds earmarked for transport infrastructure.

In short, this authority would guarantee that the calculation of tolls on the trans-European network and roads competing with this network and the use of revenue from tolls and user charges are in accordance with the provisions of the Community directive. It will need to be independent in order to take into account, without discrimination and with the greatest possible degree of transparency, the interest both of the public sector and the private sector. The latter sector in many cases operates the roads or certain roads on the network on which charges are levied.

Each Member State will be able to create this structure in accordance with its needs by adapting it to the specific characteristics of the national network.

V. ASSESSING THE IMPACT OF THE PROPOSAL

Road transport gives rise to externalities that vary greatly according to the place and time of the journey, the type of infrastructure and the vehicle characteristics. The RECORDIT project⁵ examined these costs for the various transport modes in the European Union and evaluated the impact of a charging scheme on HGVs. RECORDIT allocated these costs according to the place and population density.

Road charging for HGVs based on external costs was also analysed using the SCENES⁶ model for 2020. This model compares a base scenario and an alternative scenario using charging.

The directive now proposed would help reduce the undesirable external effects of road transport. Differentiated tolls will encourage the use of less polluting vehicles, the routes chosen for goods will be optimised, roads with a low environmental impact will have a competitive advantage and users will be encouraged to change their behaviour by taking account of the real costs of transport.

The capacity provided by the various networks will thus be used more rationally and efficiently, reducing bottlenecks and hence time losses. In the long term, economic operators will be encouraged to reorganise their logistical chain and to adapt their modal choices on the basis of clear economic signals, with beneficial effects for the environment as well as advantages for the transport sector.

In addition, thanks to a system of infrastructure fees, surplus revenue is conceivable in congested regions with a high population density. This surplus will be used to improve the efficiency of the transport sector as a whole.

Among the consequences of the new proposed charging system, mention can be made in particular of the following:

- **Modification of the itineraries of heavy goods vehicles**

Given that traffic going through sensitive areas can be subject to a higher charge, road freight transport will tend to move away from these areas and concentrate more on interurban roads where the pollution costs are the lowest. Where mountainous areas cannot be avoided, alternative modes, and in particular rail/road services, will benefit from the adjustment effect brought about by the directive on road tolls.

- **Modification of the fleet of heavy goods vehicles**

The charge per tonne for small/medium-sized lorries travelling on the trans-European network will be higher than the charge per tonne for heavy goods vehicles. Small/medium-sized lorries

⁵ RECORDIT - Real cost reduction of door-to-door intermodal transport, project funded under the 5th Framework Programme of Research and Development. The project reports are available at www.recordit.org

⁶ SCENES Scenarios for European transport, project financed under the Fourth Framework Programme of Research in the field of transport. For more details, see the final report at http://europa.eu.int/comm/transport/extra/final_reports/strategic/SCENES.pdf.

carry fewer tonnes of goods than heavy goods vehicles to absorb the charge. While they carry fewer goods than heavy goods vehicles, small lorries nevertheless cause infrastructure damage and contribute directly - like a heavy goods vehicle - to the increase in congestion on the TEN network and to the number of accidents. The new charging system should therefore, to some extent, encourage the use of heavier vehicles and hence the optimisation of road freight transport.

The example of charging in Switzerland has resulted in a big impact in terms of the restructuring of the vehicle fleet. Following the introduction of a kilometre-based charge, sales of vehicles over 3.5 tonnes have increased by 45% with a large increase in lorries over 26 tonnes. As the charge applies in Switzerland to all the network, the effect on the fleet of a policy limited to the TEN network is likely to be more limited is still significant since this network carries 50% of the traffic in terms of tonne-km.

In addition, road infrastructure charging should generate other positive changes, such as progress in vehicle technology, the operation of road haulage companies, and goods logistics management. Differentiating tolls should have a positive impact on the fleet. By way of example, estimates made at the time of introduction of the new charging system in Germany indicate a drastic reduction in EURO III vehicles by 2010 and a proportion of EURO V vehicles in excess of 50%.

VI. CONCLUSION

Transport users have the right to know what they are paying for and why. It is therefore necessary to promote systems in which the costs related to infrastructure use are translated into the prices users pay for transport, without this affecting access to a quality service throughout the whole of EU territory.

Member States are increasingly taking the initiative to introduce a system of infrastructure charging which passes these costs on to users. The existing Community charging framework must be reinforced in the face of isolated initiatives on the part of Member States, given the importance of road transport to the European economy. These national initiatives risk creating new distortions and hence compromising the smooth functioning of the internal market.

In response to repeated requests from Member States, the European Council and the European Parliament, the Commission is therefore presenting a proposal to amend Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures. This Community framework is an important complement to the internal market, guaranteeing sustainable freedom of movement.

This reform will make a crucial contribution to improving the efficiency and productivity of the transport sector. The revenue from charging will finance trans-European network projects which are currently well beyond the reach of national and Community budgets. In the long term, transport operators and forwarders will be encouraged to reorganise their logistical chain.

The proposed directive provides a framework that will enable Member States, with due regard for the subsidiarity principle, to give economic incentives to transport in the form of a price structure that better reflects the costs to society.

The phasing-in of charges on commercial transport may serve as a model and encourage Member States, if they so wish, to introduce charges for private cars, particularly in an urban environment.

VII. SUMMARY OF THE AMENDMENTS TO DIRECTIVE 1999/62/EC

Article 1 of the proposal for a directive

- **Point 1** amends Article 2 of Directive 1999/62/EC which contains definitions of the terms used in the directive. The new definitions include the network to which the tolls apply (new paragraphs a and aa which replace the concept of motorway in Directive 1999/62/EC), the concept of construction costs (not defined in Directive 1999/62/EC), the concept of vehicle (the directive now applies to lorries over 3.5 tonnes). Lastly Article 2, referring to an annex for greater clarity, includes the entire present nomenclature of EURO vehicles with regard to emissions.
- **Point 2** adapts Article 6 of Directive 1999/62/EC to ensure consistency in the text, in order to take into consideration the new possibility offered by the proposal for a directive of reducing vehicle taxes in accordance with the new Article 7b.
- **Point 3** amends Article 7 of Directive 1999/62/EC and adds several new provisions to it.
 - Paragraph 2 concerning the motorway network on which tolls are levied is replaced. The approach based on the motorway concept is replaced by an approach followed in other Community acts based on the trans-European road network, together with roads competing with that network. This concept of roads competing with the trans-European network is in response to the current concerns in the Member States confronted with the phenomenon of a shift in traffic to axes is not subject to tolls.
 - Paragraph 4 concerning the non-discriminatory nature of infrastructure charges is replaced by a more complete wording.
 - Paragraph 5a is intended to adapt Directive 1999/62/EC to technical progress concerning tolls, namely electronic collection systems. The aim is to guarantee that such systems are introduced in such a way as not to place the road sector at a disadvantage or hinder the free movement of transport.
 - Paragraph 9 develops the basis for calculating weighted average tolls. The text of Directive 1999/62/EC is replaced by the new approach of this proposal (total infrastructure costs and accident costs).
 - Paragraph 10 of Directive 1999/62/EC is replaced by the new approach concerning the differentiation of weighted average tolls. Member States can now vary tolls according to the different types of vehicles, the time of day and level of congestion, and the route in the road network. The proposal for a directive also provides that toll variation according to the route in the network will be compulsory from July 2008.
 - The new paragraph 11 provides for the possibility of increasing tolls in particularly sensitive areas, in particular in the mountains. This provision is a fundamental innovative aspect of the proposal for a directive, and is intended to help complete the (road and other) transport networks in these sensitive areas. These increases will be implemented under strict Commission supervision.
 - The new paragraph 12 includes a practical provision for the application of tolls by Member States. It reflects the new approach of greater differentiation in tolls.

- **Point 4** adds Articles 7a and 7b to Directive 1999/62/EC. Article 7b establishes the principles for calculating tolls according to a common methodology. This methodology is set out in a new Annex III to Directive 1999/62/EC. Article 7b allows Member States to introduce infrastructure charges to grant compensation for these charges. This compensation applies to vehicle taxes, but does not exclude other compensation.
- **Point 5** adds Articles 8a and 8b to Directive 1999/62/EC. Article 8a requires Member States to create an independent infrastructure supervision authority. It is a measure necessary for the implementation of the new framework established by the directive. Article 8a specifies the conditions for granting discounts or reductions in tolls.
- **Point 6** mainly modifies the concept of the assignment of revenue from infrastructure charges set out in Article 9 of Directive 1999/62/EC. While Member States are free to assign this revenue to any type of expenditure pursuant to Directive 1999/62/EC, the new proposal provides that it must be assigned to the transport sector, taking account of the balanced development of transport networks.
- **Point 7** inserts Articles 9a, 9b and 9c into Directive 1999/62/EC. Article 9a requires Member States to introduce appropriate controls and a penalty system. This will make it possible to guarantee the sound application of the directive. Article 9b is intended to update the technical annexes to the directive, and more particularly the new toll calculation methodology. Lastly, Article 9c introduces the committee procedure and a procedure for the consultation of the Commission. This provision is the practical implementation of the new powers of the Commission with regard to infrastructure charges (for the definition of the network by the directive and monitoring the parameters for the calculation of tolls, etc.).
- **Point 8** amends Article 11 of Directive 1999/62/EC. It provides for the Commission to report to the European Parliament and the Council on the implementation and the effects of the directive by 1 July 2008.
- **Point 9** is intended to update the user charges set out in Annex II to Directive 1999/62/EC. These user charges, which were set in 1999, had been adapted by applying a weighting calculated on the basis of inflation in the European Union in 2000 (1.9%), 2001 (2.2%), and 2002 (2.1%).
- **Point 10** inserts an Annex 0 setting out the different EURO standards applicable to vehicles (see also point 1 above).
- **Point 11** inserts a new Annex III setting out the toll calculation methodology (see also point 4 above).

Article 2 of the proposal for a directive

Bringing into force of the laws, regulations and administrative provisions by the Member States to comply with the proposal for a directive.

Article 3 of the proposal for a directive

Entry into force of the proposal for a directive.

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71(1) thereof,

Having regard to the Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures⁷, and in particular Article 7 thereof,

Having regard to the proposal from the Commission⁸,

Having regard to the Opinion of the Economic and Social Committee⁹,

Having regard to the Opinion of the Committee of the Regions¹⁰,

Acting in accordance with the procedure laid down in Article 251 of the Treaty¹¹,

Whereas:

- (1) Eliminating distortions of competition between transport undertakings in the Member States, the proper functioning of the internal market and improved competitiveness all depend on fair mechanisms being established to charge hauliers for the cost of infrastructure use. A degree of harmonisation has already been achieved through the adoption of Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999¹².
- (2) A fairer system of charging for the use of road infrastructure is crucial in order to ensure sustainable transport in the Community. The objective of making optimum use of the existing road network and achieving a significant reduction in its negative impact must, if possible, be achieved without imposing additional burdens on operators in the interests of sound economic growth and the proper functioning of the single market.

⁷ OJ L 187, 20.7.1999, p. 42

⁸ OJ C [...], [...], p. [...].

⁹ OJ C [...], [...], p. [...].

¹⁰ OJ C [...], [...], p. [...].

¹¹ OJ C [...], [...], p. [...].

¹² OJ L 187, 20.7.1999, p. 42.

- (3) The Commission announced its intention of proposing a directive on charging for the use of road infrastructure in the White Paper "European transport policy for 2010: time to decide". The European Parliament confirmed the need for infrastructure charging when it adopted the report on the conclusions of the White Paper on 12 February 2003. The Copenhagen European Council of December 2002 and the Brussels European Council of March 2003 also welcomed the Commission's intention of presenting a new "Eurovignette" Directive.
- (4) For the purposes of setting tolls, Directive 1999/62/EC takes account of infrastructure construction, operating, maintenance and development costs. To avoid charging for construction costs more than once, the costs that may be taken into account for this purpose must be limited to those for new infrastructure, i.e. infrastructure to be built in future or which has just been completed. However, a special provision should be introduced, so as not to cause prejudice, with regard to taking into account construction costs, to the rights relating to concession contracts in existence at the time of entry into force of the directive.
- (5) When Member States decide to introduce tolls, they should also take account of accident costs which are not covered by insurance but are borne by society as a whole.
- (6) International road transport operations are concentrated on the trans-European road transport network. Furthermore, the operation of the internal market is vital to commercial transport. Consequently, the Community framework must apply to commercial transport on the trans-European road network as defined in Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network¹³. In order to avoid traffic being diverted, with potentially serious consequences for road safety and the optimum use of the transport network, Member States must be able to introduce charging on any road which is in direct competition with the trans-European network (Main road network). In accordance with the principle of subsidiarity, Member States are free to apply tolls and/or user charges on roads other than those on the main road network, in compliance with the rules of the Treaty.
- (7) The fact that the user is able to take decisions which will influence the burden of tolls by choosing the least polluting vehicles, itineraries which are less ecologically sensitive, less congested periods or itineraries and safer vehicles, is central to a charging system. States should therefore be able to differentiate tolls according to a vehicle's emission category ("EURO" classification) and the level of damage it causes to roads, the place, the time and the amount of congestion. Such differentiation in the level of tolls must be proportionate to the objective pursued.
- (8) Where possible, the financial burden for the transport sector must not be increased, but distributed differently by replacing fixed taxes and charges by a system of charges related to use. When Member States introduce tolls and/or user charges, they must therefore be able to reduce in particular the rates of annual taxes on vehicles, where appropriate to below the minimum levels provided for in Annex I to Directive 1999/62/EC.
- (9) With regard to infrastructure financing, efforts to reduce congestion and complete the trans-European network infrastructure should be stepped up. Consequently, the revenue from fees must be used for maintenance of the road infrastructure and for the

¹³ OJ L 228, 9.9.1996, p. 1. Decision amended by Decision No 1346/2001/EC (OJ L185, 6.7.2001, p. 1).

benefit of the transport sector, in order to contribute to the balanced development of all infrastructure in the interests of the transport network as a whole.

- (10) Particular attention must be devoted to particularly sensitive areas, in particular mountain regions such as the Alps or the Pyrenees. The launch of major new infrastructure projects has often failed because the substantial financial resources they would require were not available. In particularly sensitive regions, users must therefore pay a mark-up to finance essential projects of very high European value, including those involving another mode of transport in the same corridor and area; the level of such a mark-up must be proportionate in order to safeguard freedom of movement. This amount must be linked to the financial needs of the project. It should also be linked to the basic value of the tolls in order to avoid artificially high charges in any one corridor, which could lead to traffic being diverted to other corridors, thereby causing local congestion problems and inefficient use of networks.
- (11) Fees must be non-discriminatory and not involve excessive formalities or create barriers at the internal borders. Appropriate measures must therefore be taken to make payment possible at any time and by various means, and to ensure that the electronic payment tool (on-board unit) is as accessible to the occasional user as to the frequent traveller.
- (12) In order to ensure consistent, harmonised application of the infrastructure charging system, Member States will have to set the level of tolls with the aid of a common methodology to take account of the various costs which should be covered. Provision must also be made in this methodology for using estimates of accident costs where Member States have not assessed such costs in a manner that more appropriately reflects local or regional circumstances. Member States must also communicate to the Commission, for approval, the unit values and other parameters they intend to apply to calculate the various cost elements of the charges.
- (13) In order to ensure that the requirements of the Directive are correctly enforced, Member States must designate an independent infrastructure supervision authority. This body will have a key role in ensuring, through appropriate monitoring, balanced use of the available resources. Simple, clear rules must therefore be established regarding the possibility of promoting synergies between competing transport infrastructure modes in a single corridor.
- (14) Further technical progress is still needed to develop the system of charging for the use of road infrastructure. There must be a procedure allowing the Commission to adapt the requirements of Directive 1992/62/EC to technical progress following consultation of the Member States for this purpose. The measures necessary to implement this Directive must be adopted in accordance with Council Decision No 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission¹⁴.
- (15) Given that the objectives of the proposed action, namely to harmonise the conditions applicable to tolls and user charges for the use of road infrastructure, cannot be satisfactorily achieved by the Member States and may therefore be better achieved at Community level by reason of their European dimension and with a view to safeguarding the internal transport market, the Community can take measures, in accordance with the principle of subsidiarity enshrined in Article 5 of the Treaty. In

¹⁴ OJ L 184, 17.7.1999, p.23.

accordance with the principle of proportionality set out in that Article, this Directive does not exceed what is necessary to achieve those objectives,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Directive 1999/62/EC is amended as follows:

1) Article 2 is amended as follows:

a) point (a) is replaced by the following text:

"(a) "trans-European network" means the road network defined in Section 2 of Annex I to Decision No 1692/96/EC of the European Parliament and of the Council¹⁵ as illustrated by maps. The maps refer to the corresponding sections mentioned in the operative part and/or in Annex II to this Decision;

b) the following points (aa) and (ab) are inserted:

(aa) "main road network" means the trans-European road network and any other road to which traffic may be diverted from the trans-European road network and which is in direct competition with certain parts of that network; it includes the urban transit sections of these roads;"

(ab) "construction costs" means the costs related to construction, including; where appropriate, the cost of the interest on the capital invested, of new infrastructure or of infrastructure completed not more than ... [*15 years before the entry into force of this Directive*];"

c) in point (b), the phrase "the amount shall be based on the distance travelled and the type of vehicle" is replaced by "the amount shall be based on the distance travelled and the corresponding costs per kilometre";

d) points (d) and (e) are replaced by the following text:

"(d) "vehicle" means a motor vehicle or articulated vehicle combination intended or used for the carriage by road of goods and having a maximum permissible laden weight of over 3.5 tonnes;

(e) vehicle of the «EURO 0», «EURO I», «EURO II», «EURO III», «EURO IV», «EURO V» category means a vehicle that complies with the emission limits set out in Annex 0 to this Directive"

e) point (f) is deleted.

2) Article 6 is amended as follows:

a) in paragraph 2, the phrase "Member States may apply reduced rates or exemptions for:" is replaced by the following text: "Without prejudice to Article 7b, Member States may apply reduced rates or exemptions for:"

b) in paragraph 4, the phrase "Without prejudice to the second subparagraph of paragraph 1 and to paragraphs 2 and 3 of this Article", is replaced by the following text: "Without prejudice to paragraphs 2 and 3 of this Article and to Article 7b,"

¹⁵ OJ L 228, 9.9.1996, p. 1.

3) Article 7 is amended as follows:

a) paragraphs 1 and 2 are replaced by the following text:

"1. Member States may maintain or introduce tolls and/or user charges under the conditions set out in paragraphs 2 to 12.

2. Toll and user charges shall be imposed on the vehicles defined and on the trans-European road network. Member States may extend the imposition of tolls and user charges to other roads of the primary road network. Without prejudice to paragraph 6, their extension to these other roads shall be subject to the procedure referred to in Article 9c(5)."

This Directive shall be without prejudice to the right of Member States to apply tolls and/or user rights on roads other than those of the main road network, in compliance with rules of the Treaty.

b) paragraph 4 is replaced by the following text:

"4. Toll and user charges may not discriminate, directly or indirectly, on the grounds of nationality of the haulier, the country or place of registration of the vehicle, or the origin or destination of the transport operation."

c) a new paragraph 5a is inserted as follows:

"5a Member States using electronic systems to collect tolls and/or user charges shall make available to all vehicles, under reasonable administrative and economic arrangements, the appropriate vehicle on-board units ("OBU"). These arrangements should not, financially or otherwise, e.g. by imposing an additional administrative burden or requirements for other additional equipment, place non-regular users of the road network at a disadvantage."

d) the second subparagraph of paragraph 7 is replaced by the following text :

"The maximum rates shall be reviewed every two years from ...[*date of entry into force of this Directive*]. When necessary, the Commission shall adapt the rates, in conformity with the procedure referred to in Article 9c(2).

e) the third subparagraph of paragraph 7 is deleted

f) paragraph 9 is replaced by the following text:

"9. The weighted average tolls shall be related to the costs of constructing, operating, maintaining and developing the infrastructure network concerned, including any infrastructure costs designed to reduce nuisance related to noise and costs of actual payments made by infrastructure operator corresponding to objective environmental elements such as for example soil contamination, and to the direct or indirect costs of accidents which, not being covered by an insurance system, are borne by society.

The weighted average tolls shall be calculated without prejudice, as regards taking into account construction costs, to rights relating to concession contracts existing at ... [*date of entry into force of this directive*]."

g) Paragraph 10 is replaced by the following text:

"10. Without prejudice to the weighted average tolls referred to in paragraph 9, Member States may vary the toll rates according to:

(a) vehicle type, based on its road damage class in conformity with Annex III and its EURO emission class in accordance with Annex 0

(b) time of day and level of congestion on the road concerned, provided that no toll is more than 100% above the toll charged during the cheapest period of the day;

(c) the particular road in the network, depending on the environmental sensitivity of the area, the population density or the accident risk;

Any variation in tolls charged with respect to different types of vehicle, time of day and congestion level and the particular route taken in the road network shall be proportionate to the objective pursued.

No later than 1 July 2008, Member States shall be required to vary the rates at which tolls are charged according to the particular route in the road network, in conformity with point (c)."

h) paragraphs 11 and 12 are added as follows:

"11. In exceptional cases concerning infrastructure in particularly sensitive regions, in particular mountainous regions, and after consulting the Commission in conformity with the procedure referred to in Article 9c(5), a mark-up may be added to the tolls to allow for cross-financing the investment costs of other transport infrastructures of a high European interest in the same corridor and in the same transport zone. The mark-up may not exceed 25 % of the tolls. The application of this provision shall be subject to the presentation of financial plans for the infrastructure concerned and a cost/benefit analysis for the new infrastructure project. Application of this provision to new transfrontier projects shall be subject to the agreement of the Member States concerned.

Should the Commission consider that the planned mark-up does not meet the conditions set in this paragraph, it shall seek the opinion of the Committee referred to in Article 9c(1). It may reject the plans for charges submitted by the Member State concerned in conformity with the procedure referred to in Article 9c(2).

When the Commission informs the Member State concerned that it intends to seek the opinion of the Committee, the deadline of 30 days mentioned in Article 2 of the Council Decision referred to in Article 9c(5) shall be suspended.

12. Each Member State shall ensure that the emission classification and the road damage classification of vehicles registered on their territory can easily be identified.

Where a driver is unable to produce the necessary documents in the event of a check, Member States may apply tolls as for the most polluting and damaging vehicle category, i.e. EURO 0 and damage class III."

4) Articles 7a and 7b are inserted as follows:

"Article 7a

1. In determining the levels of tolls to be charged, Member States shall take account of the various costs to be covered, according to the common methodology set out in Annex III. The estimates of accident costs given in point 2 of the Annex shall be used in cases where a Member State has not assessed these costs in a manner that more appropriately reflects local or regional circumstances.

2. Member States shall communicate to the Commission the unit values and other parameters they use in calculating the various cost elements. After consulting the Committee referred to in Article 9c(1), the Commission shall approve these values and parameters in accordance with the procedure referred to in Article 9c(2).

Article 7b

1. Without prejudice to Articles 87 and 88 of the Treaty, and subject to other provisions of Community law, Member States may, on introducing a system of tolls and/or user charges for infrastructure, provide compensation for these charges, in particular by reducing the rates of vehicle taxes, where appropriate, to a level below the minimum rates in Annex I to the Directive.

2. The level of compensation must be proportionate to the level of the tolls and/or user charges paid. Member States may, however, average out the compensation paid to the various categories of vehicles referred to in the Annex.

3. Member States shall include both the system of tolls and/or user charges and the compensation scheme in a common programme. Any compensation scheme must be implemented in the year following the introduction of the new system of tolls and/or user charges."

6) Article 8a and 8b are inserted as follows:

"Article 8a

1. Each Member State shall ensure that an independent infrastructure supervision authority is designated.

2. The independent infrastructure supervision authority shall monitor the system of tolls and/or user charges to ensure that it functions in a manner that guarantees transparency and non-discrimination between operators.

3. Without prejudice of the autonomy of private concessionaries, the independent infrastructure supervision authority shall verify that the revenue from tolls and user charges are used for sustainable projects in the transport sector.

4. The independent infrastructure supervision authority shall promote synergy in financing by coordinating the various transport infrastructure funding resources.

5. Member States shall inform the Commission of the designation of the independent infrastructure supervision authority and of its areas of responsibility."

Article 8b

Any discounts or reductions in tolls shall be limited to the actual saving in administrative costs by the infrastructure operator. In setting the level of any discount, no account may be taken of the cost savings already internalised in the tolls levied."

6) Article 9 is amended as follows:

a) point (c) of paragraph 1 is replaced by the following text:

"(c) insurance taxes."

b) paragraph 2 is replaced by the following text:

"2. Without prejudice to Article 7(11), revenue from tolls and/or user charges shall be used for the maintenance of the infrastructure concerned and for the benefit of the transport sector as a whole, taking account of the balanced development of the transport networks."

7) Articles 9a, 9b and 9c are inserted as follows:

"Article 9a

Member States shall establish appropriate controls and determine the penalty system applicable to infringements of the national provisions adopted under this Directive; they shall take all necessary measures to ensure that they are implemented. The penalties established must be efficient, proportionate and dissuasive.

Article 9b

The Commission shall update the Annexes in the light of technical progress or of inflation, in accordance with the procedure referred to in Article 9c(3).

Article 9c

1. The Commission shall be assisted by the Committee established by Article 9 of Regulation (EEC) No 1108/70¹⁶, hereinafter referred to as the Committee.
2. Whenever reference is made to this paragraph, Articles 3 and 7 of Council Decision 1999/468/EC¹⁷ shall apply, subject to the provisions of Article 8 thereof.
3. Whenever reference is made to this paragraph, Article 5 and 7 of Council Decision 1999/468/EC shall apply, subject to the provisions of Article 8 thereof.

The period provided for in Article 5(6) of Decision 1999/468/EC shall be [*three*] months.

4. The Committee shall adopt its rules of procedure.
5. Whenever reference is made to this provision, the Council Decision of 21 March 1962 instituting a procedure for prior examination and consultation in respect of certain laws, regulations and administrative provisions concerning transport proposed in Member States¹⁸ shall apply."

8) Article 11 is replaced by the following text:

"Article 11

No later than 1 July 2008, the Commission shall present a report to the European Parliament and the Council on the implementation and the effects of this Directive, taking account of developments in technology and of the trend in traffic density.

Member States shall forward the necessary information to the Commission no later than twelve months before this date".

9) The table in Annex II indicating the amount of annual charges is amended as follows:

¹⁶ OJ L 130, 15.6.1970, p.4.

¹⁷ OJ L 184, 17.7.1999, p.23.

¹⁸ OJ L 23, 3.4.1962, p. 720. Decision amended by Council Decision 73/402/EEC of 22 November 1973 (OJ L 347, 17.12.1973, p. 48).

"Annual charge

	Max. of 3 axles	Min. of 4 axles
EURO 0	1 020	1 648
EURO 1	904	1 488
EURO II and less polluting	797	1 329

10) Annex 0, the text of which appears in Annex I to this directive is inserted.

11) Annex III, the text of which appears in Annex II to this directive is added.

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 1 July 2005. They shall forthwith inform the Commission thereof and communicate a table of equivalence between those provisions and this Directive.

When Member States adopt such measures, they shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such a reference shall be adopted by Member States.

2. Member States shall communicate to the Commission the text of the provisions of domestic law which they adopt in the field covered by this Directive.

Article 3

This Directive shall enter into force on the day following that of its publication in the *Official Journal of the European Union*.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, [...]

For the European Parliament
The President

For the Council
The President

ANNEX I

ANNEX O

EMISSION LIMITS

1. "EURO 0" vehicle

Mass of carbon monoxide (CO) g/kWh	Mass of hydrocarbons (HC) g/kWh	Mass of nitrogen oxides (NOx) g/kWh
12.3	2.6	15.8

2. "EURO I"/"EURO II" vehicles

	Mass of carbon monoxide (CO) g/kWh	Mass of hydrocarbons (HC) g/kWh	Mass of nitrogen oxides (NOx) g/kWh	Mass of particulates (PT) g/kWh
"EURO I" vehicle	4.9	1.23	9.0	0.4 ⁽¹⁾
"EURO II" vehicle	4.0	1.1	7.0	0.15

(1) A coefficient of 1.7 is applied to the particulate emission limit value in the case of engines with a power rating of 85 kW or less.

3. "EURO III"/"EURO IV"/"EURO V" vehicles

The specific masses of carbon monoxide, total hydrocarbons, nitrogen oxides and particulates, determined by the ESC test and the exhaust gas opacity, determined by the ERL test, must not exceed the following values⁽¹⁾:

	Mass of carbon monoxides (CO) g/kWh	Mass of hydrocarbons (HC) g/kWh	Mass of nitrogen oxides (NOx) g/kWh	Mass of particulates (PT) g/kWh	Exhaust gas m ⁻¹
"EURO III" vehicle	2.1	0.66	5.0	0.10 ⁽²⁾	0.8
"EURO IV" vehicle	1.5	0.46	3.5	0.02	0.5
"EURO V" vehicle	1.5	0.46	2.0	0.02	0.5

(1) A test cycle consists of a sequence of test points, each point being defined by a speed and a torque which the engine must respect in steady state (ESC test) or transient operating conditions (ETC and ELR tests).

(2) 0.13 for engines whose unit cylinder capacity is less than 0.7 dm^3 and the nominal speed is in excess of $3\,000 \text{ min}^{-1}$.

In the case of diesel engines which also undergo the ETC test, and especially in the case of gas emissions, the specific masses of carbon monoxide, non-methane hydrocarbons, methane (where appropriate), nitrogen oxides and particulates (where appropriate) must not exceed the following values:

	Mass of carbon monoxide (CO) g/kWh	Mass of non-methane hydrocarbons (NMHC) g/kWh	Mass of methane (CH ₄) ⁽¹⁾ g/kWh	Mass of nitrogen oxides (NOx) g/kWh	Mass of particulates (PT) ⁽²⁾ g/kWh
"EURO III" vehicle	5.45	0.78	1.6	5.0	0.16 ⁽³⁾
"EURO IV" vehicle	4.0	0.55	1.1	3.5	0.03
"EURO V" vehicle	4.0	0.55	1.1	2.0	0.03

(1) For engines operating with natural gas only.

(2) Not applicable to gas engines.

(3) 0.21 for engines whose unit cylinder capacity is less than 0.75 dm^3 and normal speed is in excess of $3\,000 \text{ min}^{-1}$.

ANNEX II

ANNEX III

COST CALCULATION AND ALLOCATION

This Annex stipulates the method for calculating the various constituent elements of tolls. The cost estimates and figures used in point 2 are intended as a guide. However, they must be used if a Member State has not evaluated these costs in a manner that more appropriately reflects local or regional circumstances.

1. Infrastructure costs

1.1. Investment costs

Infrastructure investment costs, calculated as the costs of constructing the infrastructure concerned and expressed as an annual figure (including an appropriate rate of interest on the invested capital) throughout the design lifetime of the infrastructure, must be allocated in proportion to the number of annual vehicle-km for each vehicle category.

$$\begin{aligned} &\textbf{Unit investment cost (euros per vehicle-km)=} \\ &\textbf{annual amortisation of investment plus interest on invested capital} \\ &\times \textbf{share of commercial traffic} \\ &\div \textbf{distance in km travelled by the commercial vehicles} \end{aligned}$$

1.2. Infrastructure damage costs

Infrastructure damage costs, calculated as the average (over a maximum of five years) annual expenditure for the maintenance and operation of the infrastructure concerned, must be allocated in proportion to the annual vehicle-km for each vehicle category, weighted by an equivalence factor. This factor, which is given in point 1.3 of this Annex, expresses the influence of each vehicle category on the maintenance and operating costs of the infrastructure concerned. It is determined on the basis of the vehicles' weight, suspension system and number of axles.

$$\begin{aligned} &\textbf{Unit infrastructure cost (euros per vehicle-km) =} \\ &\textbf{annualised expenditure on maintenance and operation} \\ &\times \textbf{share of the traffic by vehicle category weighted by equivalence factors} \\ &\div \textbf{distance in km travelled by vehicle category} \end{aligned}$$

1.3. Vehicle classes and equivalence factors

The following table gives the equivalence factors:

<i>Vehicle class</i>	<i>Equivalence factors</i>	
	<i>Structural maintenance</i> ¹⁹	<i>Regular maintenance</i>
< 3.5t	0.0001	1
Between 3.5t and 7.5t, Class 0	1.46	3
> 7.5 t, Class I	2.86	3
> 7.5 t, Class II	5.06	3
> 7.5 t, Class III	8.35	3

Structural maintenance, such as resurfacing, reinforcement of civil engineering works and renewal of road beds, is carried out occasionally. These costs are proportional to the infrastructure damage caused by the traffic. The damage varies according to the axle weight. According to an accepted rule, this damage is equivalent to the fourth power of the axle weight. Consequently, a doubling of the weight leads to a sixteenfold increase in the damage to the road.

Regular maintenance, such as road marking, cleaning of ditches, winter maintenance, etc. is carried out each year. Although this expenditure is not linked to the vehicle weight, it reflects the overall traffic intensity and composition.

If the expenditure on structural maintenance cannot be determined from other expenditure in the infrastructure manager's accounts, the default value for the latter is 20% of total expenditure.

The vehicle classes are defined by the table below.

Vehicles must be classed in subcategories 0, I, II and III according to the damage they cause to the road surface, in ascending order (Class III is thus the category causing most damage to road infrastructure). The damage increases exponentially with the increase in axle weight.

All motor vehicles and vehicle combinations of a maximum permissible laden weight below 7.5 tonnes belong to damage class 0.

¹⁹ The vehicle classes correspond to axle weights of 0.5; 5.5; 6.5; 7.5 and 8.5 tonnes respectively.

Motor vehicles

Driving axles with air suspension or recognised equivalent ²⁰		Other driving axle suspension systems		Damage class
Number of axles and maximum permissible gross laden weight (in tonnes)		Number of axles and maximum permissible gross laden weight (in tonnes)		
Not less than	Less than	Not less than	Less than	
Two axles				
7.5	12	7.5	12	
12	13	12	13	
13	14	13	14	
14	15	14	15	
15	18	15	18	
Three axles				I
15	17	15	17	
17	19	17	19	
19	21	19	21	
21	23	21	23	
23	25	23	25	
25	26	25	26	
Four axles				II
23	25	23	25	
25	27	25	27	
27	29	27	29	
29	31	29	31	
31	32	31	32	

²⁰

Suspension recognised as equivalent according to the definition in Annex II to Council Directive 96/53/EC of 25 July 1996 laying down for certain road vehicles circulating within the Community the maximum authorized dimensions in national and international traffic and the maximum authorized weights in international traffic (OJ L 235, 17.9.1996, p. 59).

Vehicle combinations (articulated vehicles and road trains)

Driving axles with air suspension or recognised as equivalent		Other driving axle suspension systems		Damage class
Number of axles and maximum permissible gross laden weight (in tonnes)		Number of axles and maximum permissible gross laden weight (in tonnes)		
Not less than	Less than	Not less than	Less than	
2 + 1 axles				I
7.5	12	7.5	12	
12	14	12	14	
14	16	14	16	
16	18	16	18	
18	20	18	20	
20	22	20	22	
22	23	22	23	
23	25	23	25	
25	28	25	28	
2 + 2 axles				
23	25	23	25	
25	26	25	26	
26	28	26	28	
28	29	28	29	
29	31	29	31	II
31	33	31	33	
33	36	33	36	III
36	38	36	38	

2 + 3 axles				II
36	38	36	38	
38	40	38	40	
				III
3 + 2 axles				II
36	38	36	38	
38	40	38	40	
40	44	40	44	III
3 + 3 axles				I
36	38	36	38	
38	40	38	40	
40	44	40	44	II

2. Accident costs

The unit cost per accident type is adjusted by the risk involved per accident type and vehicle type. The insurance premium per vehicle type is then subtracted. The final charge element is expressed in euros per kilometre travelled. A distinction must be made between motorways, urban roads and other non-urban roads.

The following is a simplified formula for taking account of the accident costs not covered by insurance:

External unit cost of accidents by infrastructure type (euros per vehicle-km) =
(total costs per accident type for all types of accident
× number of accidents per type involving a heavy goods vehicle - insurance
premiums)
÷ vehicle-km

Estimated costs by accident type:

Accident risk	
Fatal	€1 million/case
Serious injury	€135 000/case
Slight injury	€15 000/case