

A Price Worth Paying

A guide to the new EU rules for road tolls for lorries



European Federation for
TRANSPORT and ENVIRONMENT

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*Directive 2006/38/EC amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures. Also known as the 'Eurovignette' directive.

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SUMMARY: RULES AND OPPORTUNITIES OF THE DIRECTIVE

Basic rules of the amended 'Eurovignette' directive at a glance

- 1) **The Directive does NOT oblige Member States to introduce road pricing for lorries.** Member States are free to decide whether or not to introduce so-called 'user charges' (time-related fees such as stickers and vignettes) or 'tolls' (distance-related fees) for lorries.
- 2) **The Directive sets rules for Member States that have, or want to introduce, user charges or tolls for vehicles with a maximum permitted weight of over 3.5 tonnes on roads belonging to the Trans-European Road network (TEN-R).**
(See http://europa.eu.int/comm/ten/transport/projects/doc/2005_ten_t_en.pdf.)
- 3) The Directive leaves **Member States free to decide on any road pricing scheme outside the scope of the Directive. Pricing for other vehicles (cars and vans) and pricing on 'other' (non-TEN-R) roads is therefore NOT subject to the rules of this Directive.** For such schemes only the general rules of the Treaty of the European Union¹ apply - notably the principles of non-discrimination and proportionality. Non-discrimination means that no user from any EU Member State may be charged differently solely on the grounds of their origin. Proportionality means that the impact of an instrument on the internal market, mainly the free flow of goods, should correspond to the objective pursued by implementing the instrument.
- 4) **The revenues of user charges or tolls may not exceed the infrastructure costs – but there are important exceptions.** The so-called '*weighted average fee*' (total revenues divided by total vehicle kilometres) shall in principle not exceed construction costs and the costs of operating, maintaining and developing the network concerned, i.e. the network on which tolls are levied. But there are important exceptions – see opportunities 2 and 5, on the next page.

Application on / for:	Rules applying under	
	Old regime	New regime
Motorways	Directive 99/62	Directive 2006/38 (if motorways belong to TEN-R) or subsidiarity (if not part of TEN-R)
TEN-Roads (TEN-R)	Directive 99/62 (if motorways) or no charges allowed (if non-motorways)	Directive 2006/38
Parallel roads	Allowed under restricted conditions under 99/62	Subsidiarity / Treaty
Other roads	Not allowed	Subsidiarity / Treaty
Urban areas	Subsidiarity / Treaty	Subsidiarity / Treaty
Heavy lorries > 12 tonnes	Directive 99/62	Directive 2006/38
Lorries > 3.5 tonnes and < 12 tonnes	Subsidiarity / Treaty	Directive 2006/38
Cars and vans < 3.5 tonnes	Subsidiarity / Treaty	Subsidiarity / Treaty

¹ Consolidated version of the Treaty establishing the European Community, OJ 325/33, 24/12/2002.

Opportunities of the amended 'Eurovignette' Directive at a glance

- 1) It allows Member States to levy user charges or tolls on the entire road network.** The old Directive allowed Member States to levy charges on motorways only. The new Directive sets rules for user charges or tolls for vehicles over 3.5 tonnes on the TEN-R network. For charges on other roads and other vehicles (cars and vans) the general rules of the Treaty apply, i.e. non-discrimination and proportionality.
- 2) It allows Member States to levy 'regulatory charges' to combat congestion and pollution, on top of the weighted average fee.** Article 9 allows Member States to levy additional so-called 'regulatory charges' that are specifically designed to combat time- and place-related congestion or environmental impacts, for example in urban areas. These charges can be levied on top of the 'weighted average fee'. These additional regulatory charges need only comply with the rules of the Treaty, i.e. non-discrimination and proportionality. The Directive does not define 'time- and place-related congestion' or 'environmental impacts'.
- 3) It allows Member States to vary fees on the basis of 1) day of the week and time of day, and even obliges Member States to vary fees on the basis of 2) 'Euro' emission classes or PM / NOx emissions as of 2010.** The maximum variation between the highest and lowest fees is 100% (factor 2) for each of these two factors – and the variations can be added. For example: the fee for a 40 tonne 'Euro 0' lorry driving in Tuesday rush hour can be at most 4 times (2 x 2) the fee for a 40 tonne 'Euro 5' lorry driving on Sunday evening. As of 2010, Member States in principle have to vary tolls under the scope of the Directive on the basis of emissions – but there are some exemptions.
- 4) It obliges Member States that operate user charges or tolls to include all vehicles above 3.5 tonnes – but there are some exemptions.** All other vehicles below 3.5 tonnes and roads outside the TEN-R network can be charged according to the - less specific - rules of the Treaty. Until 2012, Member States can still choose to leave out vehicles between 3.5 and 12 tonnes.
- 5) It allows Member States to levy 'mark-ups' in very specific cases.** In mountainous areas Member States can levy so-called 'mark-ups' on top of the weighted average fee on condition that the additional revenues are used for a priority TEN-T project in the same corridor. For cross-border priority projects the mark-up may be 25% at most. For other priority projects it can be a maximum of 15%.
- 6) It allows Member States to decide how the revenues from tolls or user charges should be used.** The Directive recommends that the revenues should be used to benefit the transport sector and optimise the entire transport system (i.e. not just for roads). As recommendations are not legally binding, Member States may also use the revenues for non-transport purposes.
- 7) It obliges Member States to ensure that systems are properly implemented.** To achieve this, Member States may take all necessary measures and establish penalties which are effective, proportionate and dissuasive.

DEFINITION OF TERMS IN THE AMENDED DIRECTIVE

“**Toll**” means a specified amount payable for a vehicle travelling a given distance on a section of infrastructure; the amount shall be based on the distance travelled and the type of vehicle.

“**Weighted average toll**” means the total revenue raised through tolls over a given period divided by the number of vehicle kilometres travelled on a given network subject to tolling during that period. Both the revenue and the vehicle kilometres are calculated for the vehicles to which tolls apply.

“**User charge**” means a specified amount, payment of which confers the right for a vehicle to use the infrastructure for a given period of time.

“**Vehicle**” means a motor vehicle or articulated vehicle combination intended or used exclusively for the carriage by road of goods and having a maximum permissible laden weight of over 3.5 tonnes.

“**Type of vehicle**” means a category into which a vehicle falls according to the number of axles, its dimensions or weight, or other vehicle classification factors reflecting road damage, e.g. the road damage classification system set out in Annex IV of the Directive, provided that the classification system used is based on vehicle characteristics which either appear in the vehicle documentation used in all Member States or are visually apparent.

“**Open toll system**” refers to a system where a toll is only paid when the user passes a toll station. However, it is possible to enter and exit the section between toll stations. This type of system may be introduced where there is concern about penalising local traffic or a desire to stimulate intra-regional motorway traffic.

“**Closed toll system**” refers to a system with toll stations posted on every access road; users pay per kilometre travelled.

ABBREVIATIONS

DSRC – Dedicated Short-range Communications
EFC - Electronic Fee Collection
ETC - Electronic Toll Collection
GPS - Global Positioning System
GSM - Global System for Mobile communications
HGV - Heavy Goods Vehicle
TEN-T - Trans-European Transport Network
TEN-R - Trans-European Road Network

1) INTRODUCTION

Scope and objective

The objective of this paper is to provide guidance to interested people in EU Member States that are considering introducing or changing existing charging systems for lorries. It should help them to interpret the complex European rules on lorry charges within their own particular national context. The most recent version of these rules was agreed by the European Parliament in December 2005 and formally adopted by the transport ministers in March 2006. The new rules came into force upon publication of Directive 2006/38/EC in the official journal of the European Union on 9 June 2006.

This paper seeks to address two questions: 'What must be done?' and 'What can be done?' In other words, it hopes to provide clarity on the obligations and the remaining design choices faced by Member States in implementing their own national lorry charging systems.

Background

Ever since the emergence of the single market, the EU has had legislation concerning lorry charges. This has never required Member States to introduce such charges, however, 'merely' setting the rules of the game for those wishing to do so.

An important reason for EU involvement has always been to ensure proper functioning of the internal market – a key element of which was to prevent centrally located EU countries from extracting excessive fees from transit traffic.

These rules are constantly evolving, just as the instrument of lorry charging itself is rapidly evolving as new technologies are developed. In the past, simple annual motorway vignettes or flat-rate paper-based kilometre charges were employed. The purpose of these early systems was simply to pay for infrastructure costs.

Technological advances and the developing science of road pricing have changed all this. Road charges are now increasingly sophisticated tools that can be used to address a wide range of issues, including financial, traffic management, safety and environmental concerns.

The most recent version of the EU rules is to some extent a reflection of the evolution in road pricing theory and systems. The rules are somewhat more flexible and modern than the old ones, but are also more complex – which is why we wrote this manual.

History of the decision-making process

On 15 December 2005, the European Parliament accepted a compromise proposal elaborated by representatives of the Council of transport ministers and the European Parliament's transport committee (TRAN) on the rules governing lorry tolls. At the European level, the first directive on charging for the use of road transport infrastructure, widely known as the 'Eurovignette Directive', was adopted in 1993. This directive was subsequently amended by Directive 1999/62². In July 2003, the European Commission presented another proposal to amend this Directive.³ The vote in the European Parliament on 15 December 2005 and the formal approval by the transport

² Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures

³ 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.

ministers on 27 March 2006 accomplished this revision and ended a period of almost two and a half years of discussions in the European Parliament and the Transport Council.

The European Federation for Transport and Environment (T&E) was disappointed with the Commission's proposal of July 2003 and presented an alternative proposal to amend Directive 1999/62.⁴ Since early 2004, T&E has been leading a broad coalition of stakeholders who have been arguing for a more flexible Directive in the European Parliament and the Transport Council. In particular, this coalition has recommended that it is essential that any revised directive should give Member States the right to:

1. apply road user charges to their entire road network, without any restrictions
2. decide on how the revenues are to be used, and
3. include all external costs.

The vote in the European Parliament Transport Committee on 13 November 2005 reflected most of the recommendations made by T&E's coalition. However, the Council of transport ministers strongly opposed the inclusion of external costs. The final version of the amended Directive merely asks the Commission to agree on a methodology for calculating external costs within two years and to present a new proposal for changing the Directive accordingly. The European Parliament and the Council have agreed to diligently examine such a proposal by the Commission. T&E is disappointed that this compromise, accepted on 15 December 2005, will prevent Member States from including environmental and health costs for several years.

The amended Directive does entail some degree of progress, however, and creates scope for reducing the environmental impact of road transport. Member States will now be able to charge lorries for using their entire road network, not just motorways. In addition, Member States operating lorry charges are obliged to include all vehicles over 3.5 tonnes only after 2012, but they may already do so before this date. This is an improvement on the current 12 tonnes minimum. After 2010, Member States must already differentiate tolls according to the environmental performance of vehicles and may also levy regulatory charges to combat environmental problems. Finally, in mountainous areas, a mark-up may be added on top of the average toll for financing priority projects of the Trans-European Transport Network (TEN-T) in the same corridor.

The modest progress enshrined in this amended Directive will only be beneficial in practice if Member States indeed make use of these opportunities. This is the main reason for writing this paper: it will describe the opportunities for the Member States created by the amended Directive on heavy goods vehicles charging, and it will indicate the challenges.

Before doing so, however, we start out by taking a brief look at experiences with road charges in several EU countries (Chapter 2). We then examine exactly what will change through introduction of the amended Directive, by comparing its terms and provisions with those of Directive 1999/62 (highlighting the changes in bold face, for ease of reading). In each case this is followed by a brief explanation and comment. In Chapters 3 to 9 we thus examine the following aspects of the legislation: vehicle scope, geographic scope, differentiation of tolls, mark-ups, regulatory charges, use of revenues and enforcement.

Annex 1 presents an extensive comparative table summarising the existing situation and the specific opportunities in each Member State. This is based on the findings presented in the subsequent annexes, the first of which focuses on the opportunities in sensitive mountainous areas (Annex 2), with the others considering the current situation and opportunities in the respective Member States.

⁴ *Amending the 'Eurovignette Directive' - An alternative to the European Commission's proposal*, T&E 03/4
<http://www.transportenvironment.org/docs/Publications/2003%20Pubs/Eurovignettefinal.pdf>

2) RECENT EXPERIENCE WITH DISTANCE-BASED TOLL SYSTEMS

Until now, distance-related vehicle charges have been implemented by only a handful of Member States. The cases most frequently cited are the motorway tolls levied in France, Italy, Portugal and Spain. In all these countries, tolls are applied only on part of the motorway network. Recently, Austria, Germany and, outside the EU, Switzerland introduced charging systems on a wider scale, including all motorways or even all roads.

Although the systems implemented in the latter three countries are similar, they vary in a number of key characteristics:

Characteristics	Austria	Germany	Switzerland
Introduction	1 January 2004	1 January 2005	1 January 2001
Vehicles	> 3.5 tonnes	> 12 tonnes	> 3.5 tonnes
Network	Motorways and a few expressways	Motorways	All roads within the country
Differentiation	Axles	Axles and emission classes	Maximum laden weight and emission classes
Fee level for 40 t	€ 0.22 per km	€ 0.124 per km	€ 0.57 – 0.74 per km
Technology	Microwave (DSRC)	Satellite navigation (GPS) and mobile communication (GSM)	Tachograph, microwave (DSRC), satellite navigation (GPS) for checks
Costs	12% of revenues ⁵	20 – 22% of revenues ⁶	5% of revenues ⁷
Information	http://www.gomaut.at	http://www.bmvbs.de/Verkehr/Strasse-,1436/LKW-Maut.htm http://www.tollcollect.de	http://www.ezv.admin.ch/zollinfo_firmen/steuern_abgaben/00379 http://www.ave.admin.ch/ave/en/verkehr/lsva/index.html

After one to five years of experience with these three systems, the following effects can be distilled:

- **Vehicle kilometres:** After a steady increase in vehicle kilometres for over 30 years, this trend has clearly been broken in Switzerland since the introduction of the heavy vehicle fee. In the first two years after introduction of the fee, vehicle kilometres fell by 5% per year (ARE 2004⁸).
- **Road transport and logistics sector:** In Switzerland, the transport and logistics sector has evolved its operations to achieve productivity gains. To avoid empty trips, some companies are now cooperating. Some medium-sized companies that had difficulty adapting have dis-

⁵ Friedrich Schwarz-Herda, Austrian Federal Ministry for Transport, Innovation and Technology (BMVIT) *Interurban road pricing: The Austrian Experience*, presentation to IMPRINT-NET group, Brussels, 25.04.06.

⁶ Matthias Rapp, Rapp Trans, Presentation FNE, visite technique, 30 January 2006.

⁷ Matthias Rapp, Rapp Trans, Presentation FNE, visite technique, 30 January 2006.

⁸ ARE 2004: Swiss Federal Office for Spatial Development (ARE), Department of the Environment, Transport, Energy and Communications (DETEC): *Fair and efficient: The Distance-related Heavy Vehicle Fee (HVF) in Switzerland*, December 2004.

appeared. This trend has also been noted in Germany and Austria. The number of empty truck kilometres fell in Germany by over 2% in the first three months of 2005, which is above average (BAG 2005⁹). This demonstrates a more efficient use of truck loading capacities.

- Adjustment of fleet composition: The emissions-dependent charging schemes in Germany and Switzerland have had a clear effect on the composition of the vehicle fleet. In Switzerland, lorry sales increased significantly in 2000. The transport sector was already replacing old vehicles with less polluting ones even before the scheme had been introduced (ARE 2004, BAG 2005). This effect is not evident in Austria, as there the fee does not depend on emission class.

In Switzerland, a move towards smaller vehicles has occurred. In Germany, sales of lorries with a maximum weight of 10 – 12 tonnes increased by almost 20% in 2004 (BAG 2005).

- Emissions: According to model calculations, by 2007 the Swiss heavy vehicle fee will lead to a decrease of 6 – 8% in CO₂ and NO_x emissions from vehicles (ARE 2004).
- Traffic diversion: A considerable number of lorries are avoiding payment of fees by using roads which are not subject to tolls. In Austria and Germany, parts of the secondary road network have seen a substantial increase in the number of lorries following introduction of the motorway charging schemes. There is clear evidence that heavy goods traffic is diverting on to other, parallel roads. This is not only the case within the countries concerned; on certain corridors, lorries are also using link roads through neighbouring countries. The most renowned case has been reported from the motorways in the French region of Alsace, which have seen an increase of some 20% in heavy goods traffic. This effect is not visible in Switzerland, where all roads are subject to charges. Austria and Germany have introduced lorry bans on some roads. Germany is to extend its 'LKW-Maut' charging scheme to certain parallel roads in 2006.
- Modal shift: There is no evidence of any significant change in the modal split in the countries concerned.
- Consumer prices: Consumer prices have not increased significantly in any of the three countries.

⁹ BAG 2005: German Federal Office for Freight Transport (BAG): Marktbeobachtung Gueterverkehr, *Sonderbericht: Auswirkungen der streckenbezogenen LKW-Maut*, September 2005.

3) VEHICLE SCOPE

a) Comparison of amended and existing text

Directive 99/62	Amended Directive 2006/38 (replaces Directive 99/62)
<p><i>Article 1</i> This Directive applies to vehicle taxes, tolls and user charges imposed on vehicles as defined in Article 2.</p>	<p><i>Article 1</i> This Directive applies to vehicle taxes, tolls and user charges imposed on vehicles as defined in Article 2.</p>
<p><i>Article 2</i> (d) "vehicle" means a motor vehicle or articulated vehicle combination intended exclusively for the carriage of goods by road and having a maximum permissible gross laden weight of not less than 12 tonnes;</p>	<p><i>Article 2</i> (d) "vehicle" means a motor vehicle or articulated vehicle combination intended or used exclusively for the carriage by road of goods and having a maximum permissible laden weight of over 3.5 tonnes;</p>
	<p><i>Article 7</i> 1. Member States may maintain or introduce tolls and/or user charges on the trans-European road network, or on parts of that network, only under the conditions set out in paragraphs 2 to 12. This shall be without prejudice to the right of Member States, in compliance with the Treaty, to apply tolls and/or user charges on roads not included in the trans-European road network, inter alia on parallel roads to which traffic may be diverted from the trans-European road network and/or which are in direct competition with certain parts of that network, or to other types of motor vehicle not covered by the definition of "vehicle" on the trans-European road network, provided that the imposition of tolls on such roads does not discriminate against international traffic and does not result in distortions of competition between operators.</p>
	<p><i>Article 7/2</i> (a) A Member State may choose to maintain or introduce tolls and/or user charges applicable only to vehicles having a maximum permissible laden weight of not less than 12 tonnes. Where a Member State chooses to apply tolls and/or user charges to vehicles below this weight limit, the provisions of this Directive shall apply. (b) Toll and/or user charges shall be applied to all vehicles [as defined, i.e. over 3.5 tonnes] from 2012. (c) A Member State may derogate from the requirement set out in sub-paragraph (b) where it considers that the extension of tolling to vehicles of less than 12 tonnes would: - create significant adverse effects on the free flow of traffic, the environment, noise levels, congestion or health; or - involve administrative costs which would be more than 30% of additional revenue generated.</p>

b) Explanation and comment

Directive 1999/62 applies to vehicles over 12 tonnes maximum laden weight. The normal practice of traditional motorway tolling operators, as well as the Austrian 'LKW-Maut' scheme, has been to consider vehicles under 12 tonnes to be under the subsidiarity of Member States. In contrast, the amended Directive will apply to vehicles over 3.5 tonnes, so that from now on Member States will be free to implement charging schemes for all such vehicles. Alternatively, they may also choose to continue existing schemes or introduce new ones for vehicles over 12 tonnes, but only until 2012. After that, all existing and new schemes will have to include vehicles over 3.5 tonnes, unless either of two conditions apply:

1. if the inclusion of vehicles under 12 tonnes has a negative impact on the free flow of traffic, the environment, noise, congestion or health, or
2. if administrative costs amount to over 30 % of the additional revenues.

Ad 1:

Technologies are available to charge all types of vehicles without harming the free flow of goods. Including more vehicles in the charging scheme will moreover certainly have a positive effect on the environment and public health. It therefore seems rather unlikely that the first reason can be justifiably cited as grounds for derogation for new systems.

Ad 2:

From a technical and procedural point of view, it seems very likely that systems can be developed with administrative costs below 30 % of revenues. The amended Directive is not very explicit about the definition of administrative costs, however, leaving room for future debate.

Although the 3.5 tonnes limit will not be mandatory until after 2012, the amended Directive allows these vehicles to be included right from the start. The amended text explicitly states that other vehicles outside the scope of the Directive may also be charged.

With the exception of those Member States with traditional motorway operators and Austria, which already includes vehicles below 12 tonnes, all Member States can benefit from this extension of vehicle scope. The Member States concerned should start preparing for implementation of a tolling system for vehicles over 3.5 tonnes immediately and not wait until it becomes mandatory in 2012.

4) GEOGRAPHIC SCOPE

a) Comparison of current and amended text

Directive 99/62	Amended Directive 2006/38 (replaces Dir. 99/62)
<p><i>Article 2</i></p> <p>(a) "motorway" means a road specially designed and built for motor traffic, which does not serve properties bordering on it, and which:</p> <p>(i) is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other either by a dividing strip not intended for traffic or, exceptionally, by other means;</p> <p>(ii) does not cross at grade with any road, railway or tramway track, or footpath;</p> <p>(iii) is specifically designated as a motorway;</p>	<p><i>Article 2</i></p> <p>(a) "trans-European road 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 Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network¹⁰ as illustrated by maps. The maps refer to the corresponding sections mentioned in the operative part of and/or in Annex II to that Decision;</p>
<p><i>Article 7</i></p> <p>1. Member States may maintain or introduce tolls and/or user charges under the conditions set out in paragraphs 2 to 10.</p> <p>2. (a) Tolls and user charges shall be imposed only on users of motorways or other multi-lane roads with characteristics similar to motorways, or users of bridges, tunnels and mountain passes.</p> <p>However, in a Member State where no general network of motorways or dual carriageways with similar characteristics exists, tolls and user charges may be imposed in that State on users of the highest category of road from the technical point of view.</p> <p>(b) Following consultations with the Commission, and in accordance with the procedure laid down in 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 States(12),</p> <p>(i) tolls and user charges may also be imposed on users of other sections of the primary road network, particularly</p> <ul style="list-style-type: none"> - where there are safety reasons for doing so, - in a Member State where no coherent network of motorways or dual carriageways with similar characteristics exists in the major part of the State, in that part of the country, but only on roads used for international and interregional heavy goods transport, provided that the traffic demand and population density do not economically justify the construction of motorways or of dual carriageway roads with similar characteristics; 	<p><i>Article 7</i></p> <p>1. Member States may maintain or introduce tolls and/or user charges on the trans-European road network, or on parts of that network, only under the conditions set out in paragraphs 2 to 12. This shall be without prejudice to the right of Member States, in compliance with the Treaty, to apply tolls and/or user charges on roads not included in the trans-European road network, inter alia on parallel roads to which traffic may be diverted from the trans-European road network and/or which are in direct competition with certain parts of that network, or to other types of motor vehicle not covered by the definition of "vehicle" on the trans-European road network, provided that the imposition of tolls on such roads does not discriminate against international traffic and does not result in distortions of competition between operators.</p>

¹⁰ OJ L 228, 9.9.1996, p. 1. Decision as last amended by Decision No. 884/2004/EC (OJ L 167, 30.4.2004, p. 1)

b) Explanation and comment

Under Directive 1999/62 tolling is allowed solely on motorways, with very few grounds for exemption: for example if no motorway network exists, or for safety reasons.

The geographic scope of the amended Directive is the Trans-European Road network (TEN-T) as defined in the TEN guidelines amended in 2004 (Decision 884/2004/EC). All other roads fall under the subsidiarity principle and Member States may therefore levy charges according to the provisions of the Treaty. This means that the charges on the latter network must not discriminate and that the instrument must be proportionate. This holds equally for roads parallel to the TEN-R network, to which traffic may divert. These parallel roads are specifically cited in the text. However, this does not mean that subsidiarity applies only to parallel roads.

No deadline has been established for when Member States must go beyond the TEN-R network, this issue being left entirely to Member States' discretion. Applying tolls on all roads will prevent traffic diverting from motorways onto the secondary network. Along these corridors this will be of benefit to citizens and local economies, as it will reduce the number of vehicles merely traversing the area through towns and villages on local roads. Including all roads in pricing schemes is also fairer to users, as the costs of administration and upkeep of the secondary road network are usually higher than on motorways.

As Directive 1999/62 did not permit tolls to be levied on non-motorways, all Member States can take advantage of this new provision. Switzerland, not an EU Member State, has been successfully operating such a system since 2001.

5) TOLL DIFFERENTIATION

a) Comparison of current and amended text

Directive 99/62	Amended Directive 2006/38 (replaces Directive 99/62)
<p><i>Article 7</i></p> <p>10. Without prejudice to the weighted average tolls referred to in paragraph 9, Member States may vary the rates at which tolls are charged according to:</p> <p>(a) vehicle emission classes, provided that no toll is more than 50 % above the toll charged for equivalent vehicles meeting the strictest emission standards;</p> <p>(b) time of day, provided that no toll is more than 100 % above the toll charged during the cheapest period of the day.</p> <p>Any variation in tolls charged with respect to vehicle emission classes or the time of day shall be proportionate to the objective pursued.</p>	<p><i>Article 7</i></p> <p>10 (a) Without prejudice to the weighted average tolls referred to in paragraph 9, Member States may vary the toll rates for purposes such as combating environmental damage, tackling congestion, minimising infrastructure damage, optimising the use of the infrastructure concerned or promoting road safety, provided that such variation:</p> <ul style="list-style-type: none"> – is proportionate to the objective pursued; – is transparent and non-discriminatory particularly regarding the nationality of the haulier, the country or place of establishment of the haulier or of registration of the vehicle, and the origin or destination of the transport operation;
	<p>(b) Subject to the conditions of point (a), toll rates may be varied according to:</p> <ul style="list-style-type: none"> - EURO emission class as set out in Annex 0 including the level of PM and NOx, provided that no toll is more than 100 % above the toll charged for equivalent vehicles meeting the strictest emission standards; and/or - the time of day, type of day or season, provided that <ul style="list-style-type: none"> (i) no toll is more than 100% above the toll charged during the cheapest period of the day, type of day or season; or (ii) where the cheapest period is zero-rated, the penalty for the most expensive time of day, type of day or season is no more than 50% of the level of toll that would otherwise be applicable to the vehicle in question.
	<p>Member States shall be required to vary the rates at which tolls are charged in conformity with the first indent no later than 2010 or in the case of concessions, at the moment of renewal of that concession.</p> <p>A Member State may nevertheless derogate from this requirement if:</p> <ul style="list-style-type: none"> - this would seriously undermine the coherence of the tolling systems in its territory; - for the tolling system concerned, it would not be technically practicable to introduce such differentiation; or - this would lead to diversion of the most polluting vehicles away from the trans-European road network with consequential impacts on road safety and public health. <p>Such derogations shall be notified to the Commission.</p>

b) Explanation and comment

Although the categories employed for toll differentiation – emission classes and time of use – have not fundamentally changed, the amended Directive provides greater freedom and scope for Member States.

With respect to emissions, tolls could until now only be differentiated according to a broad emission class. In the amended Directive, tolls may be indexed to NO_x and PM emissions. This will make it more attractive to retrofit older lorries with particle filters. Despite the low emission class of such vehicles, they could benefit from lower tolls, as their PM emissions are lower. The difference in toll level between the cleanest and the dirtiest vehicles may now be set at 100%, while under Directive 1999/62 this was only 50%.

With regard to time differentiation, tolls may now be varied not only according to the time of day, but also according to the type of day and type of season. These two differentiations, according to emissions and time period, can be cumulative.

The amended Directive requires that tolls be differentiated according to environmental performance by 2010. However, Member States need not wait to take the opportunity to make dirtier vehicles pay more and cleaner vehicles pay less. This will create an incentive for the haulage sector to replace polluting lorries with cleaner ones.

So far, only Germany (and outside the EU, Switzerland) has a system that has varying tolls based on emission class. There is therefore scope for most Member States to take the initiative to implement emission-indexed tariffs and thus contribute to phasing out their dirtiest vehicles more rapidly.

6) MARK-UPS

a) Comparison of current and amended text

Directive 99/62	Amended Directive 2006/38 (replaces Directive 99/62)
-	<p><i>Article 7</i></p> <p>11. Without prejudice to Article 9(1), in exceptional cases concerning infrastructure in mountainous regions and after informing the Commission, a mark-up may be added to the tolls of specific road sections:</p> <p>(a) which are the subject of acute congestion affecting the free movement of vehicles, or</p> <p>(b) the use of which by vehicles is the cause of significant environmental damage,</p> <p>on condition that:</p> <ul style="list-style-type: none"> - the revenue generated from the mark-up is invested in priority projects of European interest identified in Annex III to Decision No 884/2004/EC, which contribute directly to the alleviation of the congestion or environmental damage in question and which are located in the same corridor as the road section on which the mark-up is applied; - the mark-up, which may be applied to tolls varied in accordance with paragraph 10, does not exceed 15% of the weighted average toll calculated in accordance with paragraph 9 except where the revenue generated is invested in cross-border sections of priority projects of European interest involving infrastructure in mountainous regions, in which case the mark-up may not exceed 25%; - the application of the mark-up does not result in unfair treatment of commercial traffic compared to other road users; - financial plans for the infrastructure on which the mark-up is applied and a cost/benefit analysis for the new infrastructure project are submitted to the Commission in advance of the mark-up's application; - the period for which the mark-up is to apply is defined and limited in advance and is consistent in terms of the expected revenue to be raised with the financial plans and cost/benefit analysis submitted. <p>Application of this provision to new cross-border projects shall be subject to the agreement of the Member States concerned.</p> <p>When the Commission receives the financial plans from a Member State intending to apply a mark-up, it shall make this information available to the members of the Committee referred to in Article 9c(1). Should the Commission consider that the planned mark-up does not meet the conditions set out in this paragraph, or if it considers that the planned mark-up will have significant adverse effects on the economic development of peripheral regions, it may reject or request modification of the plans for charges submitted by the Member State concerned, in accordance with the procedure referred to in Article 9c(2).</p>

b) Explanation and comment

Mark-ups are a new instrument introduced in the amended Directive, allowing Member States to add 15% or 25% to the average toll on roads in mountainous areas. However, this is only possible in corridors with a TEN priority project, for which the additional revenues must then be used. If the TEN priority project is a cross-border one, the Member States in question can add a 25% mark-up, otherwise only 15%.

Given the various requirements (i.e. mountainous area, TEN priority project in the same corridor), this instrument provides additional opportunities for a few Member States only. The most obvious applications will be for the rail tunnel projects in the Alps (Brenner, Lyon-Turin) and the Pyrenees (central Pyrenean rail crossing). However, mark-ups might also possibly be applied on future projects through mountainous areas in new or future Member States (Slovakia, Slovenia, Bulgaria, Romania).

The issue of mark-ups in mountainous areas is discussed at greater length in Annex 2.

7) REGULATORY CHARGES

a) Comparison of current and amended text

Directive 99/62	Amended Directive 2006/38 (replaces Directive 99/62)
<p>1. This Directive shall not prevent the application by Member States of:</p> <p>(a) specific taxes or charges:</p> <ul style="list-style-type: none"> - levied upon registration of the vehicle, or - imposed on vehicles or loads of abnormal weights or dimensions; <p>(b) parking fees and specific urban traffic charges;</p> <p>(c) regulatory charges specifically designed to combat time and place-related traffic congestion.</p>	<p>1. This Directive shall not prevent the <i>non-discriminatory</i> application by Member States of:</p> <p>(a) specific taxes or charges:</p> <ul style="list-style-type: none"> - levied upon registration of the vehicle, or - imposed on vehicles or loads of abnormal weights or dimensions; <p>(b) parking fees and specific urban traffic charges.</p> <p>1a. This Directive shall not prevent <i>the non-discriminatory</i> application by Member States of</p> <p>(a) regulatory charges specifically designed to combat time and place-related traffic congestion;</p> <p>(b) regulatory charges designed to combat environmental impacts, including poor air quality on any road notably in urban areas, including trans-European network roads crossing an urban area.</p>

b) Explanation and comment

In contrast to the mark-ups of the previous chapter, regulatory charges provide Member States far greater freedom. Regulatory charges are not part of the amended Directive, but fall under subsidiarity and can thus be freely designed by Member States. Any such regulatory charges must satisfy the provisions of the Treaty, though, i.e. they may not discriminate and they must be proportional.

While Directive 99/62 mentioned regulatory charges solely as a means of combating urban and inter-urban congestion, Directive 2006/38 also provides scope for using them to combat environmental impacts. The amended Directive explicitly mentions urban areas as a possible arena for regulatory charges, these areas being included as an example rather than a restriction. It also makes clear that TEN-roads in urban areas may be included. Again, this formulation does not restrict application to such roads. An explanatory letter from Commissioner Barrot clearly states that regulatory charges can be applied on all roads, including all TEN-roads. This can also be deduced from the introduction to Article 7/11 on mark-ups, which states that mark-ups can be levied independently of regulatory charges. Thus, regulatory charges can also be applied on TEN-roads in mountainous areas.

This provision on regulatory charges provides an additional instrument for all Member States to reduce environmental impacts in areas suffering from particular environmental problems.

8) USE OF REVENUES

a) Comparison of current and amended text

Directive 99/62	Amended Directive 2006/38 (replaces Directive 99/62)
<p><i>Article 9</i></p> <p>2. Neither shall this Directive prevent the Member States from attributing to environmental protection and the balanced development of transport networks a percentage of the amount of the user charge, or of the toll, provided that this amount is calculated in accordance with Article 7(7) and (9).</p>	<p><i>Article 9</i></p> <p>2. Member States shall determine the use to be made of revenue from charges for the use of road infrastructure. To enable the transport network to be developed as a whole, revenue from charges should be used to benefit the transport sector and optimise the entire transport system.</p>

b) Explanation and comment

The amended Directive makes it clear that Member States are free to determine how revenues are to be used. All it gives on this point is a recommendation that revenues should be used for developing the transport network as a whole. The Directive does not require Member States to earmark revenues, although they are free to do so if they wish.

Directive 1999/62 is not at all explicit on the use of revenues. It only mentions that part of the revenues can be used for environmental protection and balanced development of transport networks. It says nothing about how the bulk of the revenues are to be used. Implicitly, the idea was that the major part would be used for the road construction sector. This is anyway the case if the system covers only operating and construction costs. This is the case for traditional motorway tolling systems.

Member States can grasp the opportunity to put these revenues to best use.

9) ENFORCEMENT

Directive 99 /62	Amended Directive 2006/38 (replaces Directive 99/62)
-	<p><i>Article 9a</i></p> <p>Member States shall establish appropriate controls and determine the system of penalties 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 effective, proportionate and dissuasive.</p>

b) Explanation and comment

The amended Directive asks Member States to implement enforcement systems and define penalties to discourage users from cheating the system. Member States not only have the opportunity but also the responsibility to make sure that charging systems are correctly implemented and to ensure that road users not allowed to avoid payment of fees due.

Implementation of a reliable enforcement and penalty system is a basic precondition of any system and its acceptability and effectiveness. All Member States can take advantage of this provision of the Directive.

Annex 1: Current situation and opportunities in Member States: a comparison

Forerunners (distance-based systems)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Austria	<i>Existing</i>	Toll	>3.5 t (time -based vignette for vehicles <3.5 t)	Motorways & some express roads.	General: Vehicle class (axles) Additional: Type of road ('Sondermaut-strecken' in mountainous areas), Time (Brenner motorway day/night)	'Sondermaut-strecken' as a similar concept	-	Motorways (Asfinag)	DSRC	http://www.asfinag.at/ http://www.gomaut.at/go/default.asp http://www.asecap.com/english/mem-austria-en.html
	<i>Planned</i>	-	-	Discussion on inclusion of parallel roads on hold indefinitely	-	-	-	-		No immediate plans
	<i>Additional opportunities</i>	None	All vehicles	All roads	Emissions class	Brenner (<i>Sondermaut-strecken</i> may already correspond to the maximum)	In urban and mountainous areas	Other transport or non-transport use		
Germany	<i>Existing</i>	Toll	> 12 t	Motorways	Vehicle class (axles), Emissions (Euro class)	-	-	Transport sector (road, rail, inland shipping)	GPS / GSM	http://www.bmwbw.de/Verkehr/Strasse-,1436/LKW-Maut.htm http://www.tollcollect.de
	<i>Planned</i>	-	-	Discussion on inclusion of certain parallel roads	-	-	-	-		No plans beyond inclusion of some parallel roads.
	<i>Additional opportunities</i>	None	> 3.5 t	All roads	Emissions class	Hardly applicable (possible in lower Inn valley on Brenner link)	In urban (and mountainous area) with congestion or environmental problems	Other transport or non-transport use	-	

Traditional motorway operators (distance/matrix-based systems) (p.1)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
France	<i>Existing</i>	Toll	All vehicles	Part of the motorway network (approx. 8000 km; no tolls on e.g. urban motorways, some inter-urban motorways)	Vehicle class (axles)	-	-	Motorway operators	DSRC	http://www.autoroutes.fr http://www.asecap.com/english/mem-france-en.html
	<i>Planned</i>	-	-	Additional links (e.g. Alsace ?)	-	-	-	-	-	No known plans
	<i>Additional opportunities</i>	-	-	All motorways, all roads	Emissions class	Lyon-Turin; Pyrenees	In urban and mountainous areas	Other transport or non-transport use	-	
Greece	<i>Existing</i>	Toll	All vehicles	<1000 km motorways	Vehicle class (axles)	-	-	Motorway operators	DSRC	http://www.teo.org.gr/ http://www.asecap.com/english/mem-greece-en.html
	<i>Planned</i>	-	-	? (possibly additional / new motorways)	-	-	-	-	-	No plans known
	<i>Additional opportunities</i>	-	-	All motorways, all roads	Emissions class	Possibly to Bulgarian border	In urban and mountainous areas	Other transport or non-transport use	-	
Italy	<i>Existing</i>	Toll	All vehicles	Part of motorway network (5600 km)	Vehicle class (axles)	-	-	Motorway operators	DSRC	http://www.aiscat.it/ http://www.asecap.com/english/mem-italy-en.html
	<i>Planned</i>	-	-	-	-	-	-	-	-	No plans known
	<i>Additional opportunities</i>	-	-	All motorways, all roads	Emissions class	Brenner link, Fréjus / Mont Blanc	In urban and mountainous areas	Other transport or non-transport use	-	

Traditional motorway operators (distance/matrix-based systems) (p.2)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Portugal	<i>Existing</i>	Toll	All vehicles	Part of motorways (1300 km)	Vehicle class (axles)	-	-	Motorway operators	DSRC	http://www.brisa.pt http://www.asecap.com/english/mem-portugal-en.html
	<i>Planned</i>	-	-	? (possibly additional / new motorways)	-	-	-	-		No plans known
	<i>Additional opportunities</i>	-	-	All motorways, all roads	Emissions class	Not applicable	In urban areas	Other transport or non-transport use		
Spain	<i>Existing</i>	Toll	All vehicles	Part of motorway network (2800 km)	Vehicle class (axles)	-	-	Motorway operators	DSRC	http://www.aseta.es/ http://www.asecap.com/english/mem-spain-en.html
	<i>Planned</i>	-	-	? (possibly additional / new motorways)	-	-	-	-		No plans known
	<i>Additional opportunities</i>	-	-	All motorways, all roads	Emissions class	Pyrenean links	In urban and mountainous areas	Other transport or non-transport use		

Traditional Eurovignette countries (time-based systems) (p.1)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Belgium	<i>Existing</i>	Eurovignette: user charge	> 12 t	Motorways	EURO 0 – EURO IV+, 3 / 4 axles	-	-	Regions for transport projects	Manual / sticker	
	<i>Planned</i>	Flat-rate (time-based) all-vehicle vignette	Eurovignette + “e-vignette” for vehicles under 12t	Motorways / all roads	Weight / axles	-	-	Under discussion between regions.	Electronic fee collection using number plate recognition.	Plans for e-vignette for vehicles under 12t – scheduled for January 2008.
	<i>Additional opportunities</i>	Distance-based charges	> 3.5 t / All vehicles	All roads	Vehicle class (weight / axles); emissions	Not applicable	In urban areas	Other transport or non-transport use		
Denmark	<i>Existing</i>	User charge	> 12t	Motorways	EURO 0 – EURO IV+, 3 / 4 axles	-	-	-	Manual / sticker	
	<i>Planned</i>	No plans	-	-	-	-	-	-		No plans
	<i>Additional opportunities</i>	Distance-based charges	> 3.5 t / All vehicles	All roads		Not applicable	In urban areas			
Luxemburg	<i>Existing</i>	User charge	> 12 t	Motorways	EURO 0 – EURO IV+, 3 / 4 axles	-		-	Manual / sticker	http://www.do.etat.lu/vehaut/eurovignette.htm
	<i>Planned</i>	-	-	-	-	-	-	-		No plans known
	<i>Additional opportunities</i>	Distance-based charges	> 3.5t / All vehicles	All roads		Not applicable	In urban areas	Other transport or non-transport use		
Netherlands	<i>Existing</i>	User charge	> 12 t	Motorways	EURO 0 – EURO IV+, 3 / 4 axles			-	Manual / sticker	
	<i>Planned</i>	Distance-based charges	All vehicles	All roads	Vehicle classes (weight / axles); Emissions / Env. Characteristics	-	-	-	GPS likely	Plans under discussion for possible introduction 2012
	<i>Additional opportunities</i>	Distance-based charges	> 3.5t / All vehicles	All roads	-	Not applicable	In urban areas	Other transport or non-transport use	-	

Traditional Eurovignette countries (time-based systems) (p.2)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Sweden	<i>Existing</i>	User charge	> 12 t	Motorways	EURO 0 – EURO IV+, 3 / 4 axles	-	(Stockholm congestion charge for all vehicles)	-	Manual / sticker	
	<i>Planned</i>	Distance-based charges	> 7.5t under discussion	Motorways & major roads, possible regional exceptions	EURO class, Environmental characteristics	-	-	-		Plans under discussion, not yet finalised
	<i>Additional opportunities</i>		> 3.5 / 7.5 t / All vehicles	All roads		Not applicable	In urban areas			

Late starters (no system yet)

Country		Application	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Finland	<i>Existing</i>	None	-	-	-	-	-	-	-	
	<i>Planned</i>	None	-	-	-	-	-	-	-	Feasibility study but no plans
	<i>Additional opportunities</i>	Distance-based charges	> 3.5 t / All vehicles	All Motorways / all roads	Emissions class	Not applicable	Urban areas	Other transport or non-transport use		
Ireland	<i>Existing</i>	None (but 3 tolled links)	(All vehicles)	- (3 motorways links)	- (Vehicle class)	-	-	-	-	http://tinyurl.com/qg4re
	<i>Planned</i>	Tolls (PPP for road construction)	All vehicles	New roads/motorways.	-	-	-	PPP	-	Provision for public consultation on tolling proposals.
	<i>Additional opportunities</i>	Toll	> 3.5 t / All vehicles	All Motorways / all roads	Emissions class	Not applicable	Urban areas			
United Kingdom	<i>Existing</i>	None (but 42 km tolled on M6)	- (All vehicles)	- (42 km motorway)	- (Vehicle class)	-	(London congestion charge)	-	-	http://www.m6toll.co.uk/
	<i>Planned</i>	Tolls (Lorry Road User Charges, LRUC)	> 3.5 t	All roads	Vehicle class	-	(Several cities plan congestion charges)	Treasury (comp. for red. excise duty)	ETC	Plans postponed
	<i>Additional opportunities</i>	None if plans realised	All vehicles	None	Emissions class	Not applicable.	Urban areas	Other transport or non-transport use		

New Member States (various situations) (p.1)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Cyprus	<i>Not analysed: no exchange by land transport between Cyprus and rest of EU</i>									
Czech Republic	<i>Existing</i>	User charge	All vehicles, 4+ wheels	Motorways and expressways (740km)	Weight	-	-	Motorways	Manual / sticker	http://www.mdcz.cz/en/
	<i>Planned</i>	Toll for Heavy Goods Vehicles	First > 12 t, later > 3.5 t	Motorways and expressways (approx. 2000 km)	Axles, Emission class (EURO 0 – EURO III+), Day/night	-	-	Motorways	Electronic Fee Collection, DSRC.	Scheduled date of entry into force: 1 st Jan 2007
	<i>Additional opportunities</i>	Tolls	All vehicles	All roads	Emissions class: EURO 0 – EURO IV+	Limited applicability	In urban and/or polluted areas	Other transport / non-transport uses	GPS	
Estonia	<i>Existing</i>	-	-	-	-	-	-	-		
	<i>Planned</i>	-	-	-	-	-	-	-		No plans known
	<i>Additional opportunities</i>	Tolls	> 3.5 t / All vehicles	All roads	Emissions class	Not applicable	In urban areas	transport / non-transport uses		
Hungary	<i>Existing</i>	User charges	All vehicles	Approx. 70% of Motorway network (670km, steadily increasing)	Weight	-	-	Motorways	Manual / sticker	http://www.aka.hu/ http://www.asecap.com/english/mem-hungary-en.html http://www.autopalya.hu/Engine.aspx
	<i>Planned</i>	Tolls	>3.5 t	Motorways, expressways	Weight?	-	-	Motorways	Electronic Toll Collection, DSRC	Scheduled date of entry into force: 2007
	<i>Additional opportunities</i>	None if plans implemented	None	All roads	Emissions class	Not applicable	In urban areas	Other transport / non-transport uses	GPS	
Latvia	<i>Existing</i>	-	-	-	-	-	-	-		
	<i>Planned</i>	-	-	-	-	-	-	-		No plans known
	<i>Additional opportunities</i>	Tolls	> 3.5 t / All vehicles	All roads	Emissions class	Not applicable	In urban areas			

New Member States (various situations) (p.2)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Lithuania	<i>Existing</i>	-	-	-	-	-	-	-	-	
	<i>Planned</i>	-	-	-	-	-	-	-	-	No plans known
	<i>Additional opportunities</i>	Tolls	> 3.5 t / All vehicles	All roads	Emissions class	Not applicable	In urban areas			
Malta	<i>Not analysed: no exchange by land transport between Malta and rest of EU</i>									
Poland	<i>Existing</i>	User charge	>3.5 t (+ motorway toll for all motorised vehicles)	Motorways and national roads	Weight, Axles, Emissions (EURO 0 / EURO I)	-	-	Motorways and national roads	Road user card	http://www.gddkia.gov.pl/
	<i>Planned</i>	User charge	>3.5 t	All national roads	Vehicle type, Weight, Emission class (EURO 0 – EURO II+)	-	-	Motorways and national roads	Not yet decided	Draft legislation not yet approved
	<i>Additional opportunities</i>	Tolls	All vehicles	All roads	Emission class: EURO 0 – EURO IV+	Possible applicability, High Tatras.	In urban and/or polluted areas	Other transport / non-transport uses	GPS	
Slovakia	<i>Existing</i>	User charge	All vehicles	Motorways & 1 st class roads	Weight	-	-	Motorways	Manual / sticker	http://www.telecom.gov.sk/index/index.php
	<i>Planned</i>	Tolls	> 3.5 t initially; all vehicles from 2011	Motorways (340km), expressways (80km) + later introduction of parallel trunk roads	Weight, Axles, Emission class	-	-	Motorways	EFC, DSRC, switching to GPS from 2008-2012.	Scheduled date of entry into force: late 2007
	<i>Additional opportunities</i>	None if plans implemented	All vehicles	All roads	Emissions class	Possible applicability, High Tatras.	In urban areas and/or polluted areas and mountains	Other transport / non-transport uses	-	

New Member States (various situations) (p.3)

Country		Basic system	Vehicle scope	Geographic scope	Differentiation	Mark-ups	Regulatory charges	Use of revenues	Technology	Sources + general comments
Slovenia	<i>Existing</i>	Tolls	All vehicles	Motorways (440 km)	Vehicle height, Axles	-	-	Motorways	EFC/DSRC for cars (manual for HGVs)	http://www.dars.si/ http://www.asecap.com/english/mem-slovenia-en.html
	<i>Planned</i>	Tolls	All vehicles	Motorways	Emissions (environmental characteristics?)	-	-	Motorways	EFC for HGVs, technology as yet decided	Plans not yet finalised
	<i>Additional opportunities</i>	None	None	All roads	Emissions class	Alpine links	In urban areas and mountains	Other transport / non-transport uses	GPS	

Annex 2: Opportunities of amended 'Eurovignette' Directive in sensitive mountain areas

Introduction

In December 2005, the European Parliament agreed on a compromise proposal from the UK Presidency and the Council amending the "Eurovignette Directive" (1999/62) on charging heavy goods vehicles (HGVs). This text was formally adopted by the Council of transport ministers on 27 March 2006. The amended Directive allows for additional charging possibilities. Some of these new charging elements are focused on sensitive mountain areas. One initial objective of the European Commission in amending the Directive was to provide an instrument to replace the "ecopoints" system in Austria¹¹ and also be used in other sensitive mountain areas. Because links through mountain areas are topographically limited and therefore heavily used, people, animals, plants and landscapes in these areas suffer disproportionately from freight transport emissions.¹²

The following chapter analyses the opportunities of the amended Directive for administrators and others in these sensitive mountain areas.

A distance-based fee as the best option

Under its amended Article 7.1, the new Directive allows Member States to maintain or introduce tolls and / or user charges on the trans-European road network. Tolls are to be based on the distance travelled and type of vehicle (Article 2b), while user charges give users the right to use the infrastructure over a certain period of time (Article 2c). This means that Member States will still have the freedom to choose between distance-based tolls and time-based charges. They are even free not to apply any charges or tolls at all.

<p><i>Article 2</i></p> <p>(b) "toll" means a specified amount payable for a vehicle travelling a given distance on the infrastructures referred to in Article 7(1); the amount shall be based on the distance travelled and the type of vehicle;</p> <p>(c) "user charge" means a specified amount payment of which confers the right for a vehicle to use for a given period the infrastructures referred to in Article 7(1);</p> <p>(d) "vehicle" means a motor vehicle or articulated vehicle combination intended or used exclusively for the carriage by road of goods and having a maximum permissible laden weight of over 3,5 tonnes;</p>
<p><i>Article 7</i></p> <p>1. Member States may maintain or introduce tolls and/or user charges on the trans-European road network, or on parts of that network, only under the conditions set out in paragraphs 2 to 12. This shall be without prejudice to the right of Member States, in compliance with the Treaty, to apply tolls and/or user charges on roads not included in the trans-European road network, inter alia on parallel roads to which traffic may be diverted from the trans-European road network and/or which are in direct competition with certain parts of that network, or to other types of motor vehicle not covered by the definition of "vehicle" on the trans-European road network, provided that the imposition of tolls on such roads does not discriminate against international traffic and does not result in distortions of competition between operators.</p>

Of these options, only a distance-based toll, as defined in Article 2b, is both fair to users and at the same time creates incentives to use HGVs more efficiently and thus reduce negative im-

¹¹ Proposal for a regulation of the European Parliament and of the Council establishing an ecopoint system applicable to heavy goods vehicles travelling through Austria for the year 2004 20.12.2001 COM(2001)807 final2001/0310 (COD)

¹² See T&E publication *Delivering the Goods*, T&E 2004..

pacts. The amended Directive allows Member States to levy such tolls on the trans-European network and furthermore on all roads and all vehicles, even those outside the Directive's scope (Article 2d), according to subsidiarity.

<i>Article 7</i>
9. Toll shall be based on the principle of the recovery of infrastructure costs only. Specifically the weighted average toll shall be related to the construction costs and the costs of operating, maintaining and developing the infrastructure network concerned. The weighted average toll may also include a return on capital or profit margin based on market conditions.
<i>Article 2</i>
"(aa) "construction costs" means the costs related to construction, including, where appropriate, the financing costs, of:
<ul style="list-style-type: none"> – new infrastructure or new infrastructure improvements (including significant structural repairs); or – infrastructure or infrastructure improvements (including significant structural repairs) completed no more than 30 years before*, where tolling arrangements are already in place on*, or completed no more than 30 years before the establishment of any new tolling arrangements introduced after*; costs regarding infrastructure or infrastructure improvements completed before these time limits may also be considered as construction costs where: <ul style="list-style-type: none"> (i) a Member State has established a tolling system which provides for the recovery of these costs by means of a contract with a tolling system operator, or other legal acts having equivalent effect, which enter into force before*, or (ii) a Member State can demonstrate that the case for building the infrastructure in question depended on its having a design lifetime in excess of 30 years. <p>In any event, the proportion of the construction costs to be taken into account shall not exceed the proportion of the current design lifetime period of infrastructure components still to run on* or on the date when the new tolling arrangements are introduced, where this is a later date. Costs of infrastructure or infrastructure improvements may include any specific expenses on infrastructure designed to reduce nuisance related to noise or to improve road safety and actual payments made by the infrastructure operator corresponding to objective environmental elements such as protection against soil contamination;</p> <p>(ab) "financing costs" means interest on borrowings and/or return on any equity funding contributed by shareholders;</p> <p>(ac) "significant structural repairs" means structural repairs excluding those repairs no longer of any current benefit to road users, e.g. where the repair work has been replaced by further road resurfacing or other construction work;"</p>

In the tolls, Member States can include construction costs and the costs of operating, maintaining and developing the road network (Article 7.9). Construction costs are defined in more detail in Article 2(aa). They can include the costs of new infrastructure, but also those of infrastructure built within the last 30 years and, under certain conditions, even before that period.

The external costs of health and environmental damage, accidents and congestion cannot be included in the tolls.

This kind of distance-based toll on all roads should become the basic road user charging instrument in Europe and not be limited to sensitive mountain areas, as the distance through sensitive mountain areas is usually too short to influence traffic volumes and impacts to any worthwhile extent.

Differentiation of fee to reduce vehicle air emissions

The amended Directive allows Member States to vary tolls according to Euro emission classes, PM and NOx levels, and time of day and type of season (Article 7.10). The most polluting vehicles can be charged twice as much as the cleanest vehicle in the same class. Using the infra-

structure at peak hours can also cost twice as much as at non-peak hours. This again applies to a given vehicle class. This means that before differentiating according to environmental performance and time of day or season, Member States can vary tolls according to vehicle class, which are defined by the number of axles and maximum laden weight (see Annex IV).

<i>Article 7</i>
<p>10 (a) Without prejudice to the weighted average tolls referred to in paragraph 9, Member States may vary the toll rates for purposes such as combating environmental damage, tackling congestion, minimising infrastructure damage, optimising the use of the infrastructure concerned or promoting road safety, provided that such variation:</p> <ul style="list-style-type: none"> – is proportionate to the objective pursued; – is transparent and non-discriminatory particularly regarding the nationality of the haulier, the country or place of establishment of the haulier or of registration of the vehicle, and the origin or destination of the transport operation;
<p>(b) Subject to the conditions of point (a), toll rates may be varied according to:</p> <ul style="list-style-type: none"> - EURO emission class as set out in Annex 0 including the level of PM and NO_x, provided that no toll is more than 100 % above the toll charged for equivalent vehicles meeting the strictest emission standards; and/or - the time of day, type of day or season, provided that <ul style="list-style-type: none"> (i) no toll is more than 100% above the toll charged during the cheapest period of the day, type of day or season; or (ii) where the cheapest period is zero-rated, the penalty for the most expensive time of day, type of day or season is no more than 50% of the level of toll that would otherwise be applicable to the vehicle in question.
<p>Member States shall be required to vary the rates at which tolls are charged in conformity with the first indent no later than 2010 or in the case of concessions, at the moment of renewal of that concession. A Member State may nevertheless derogate from this requirement if:</p> <ul style="list-style-type: none"> - this would seriously undermine the coherence of the tolling systems in its territory; - for the tolling system concerned, it would not be technically practicable to introduce such differentiation; or - this would lead to diversion of the most polluting vehicles away from the trans-European road network with consequential impacts on road safety and public health. <p>Such derogations shall be notified to the Commission.</p>
<i>Annex IV</i>
<p>The vehicle classes are defined by the table below.</p> <p>Vehicles are 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.</p>

Tolls for tunnels and bridges to reflect higher costs of infrastructure in mountainous areas

The amended directive, like Directive 1999/62, does not permit application of user charges and tolls at the same time. However, Article 7.3 does allow Member States with user charges to also apply tolls for use of bridges, tunnels or mountain passes.

<i>Article 7</i>
<p>3. Tolls and user charges may not both be imposed at the same time on any given category of vehicle for the use of a single road section. However, Member States may also impose tolls on networks where user charges are levied for the use of bridges, tunnels and mountain passes.</p>

This provision does not apply to the more relevant case, in mountainous areas, of a Member State applying tolls and not user charges in its territory. The question is still open as to whether it is possible to levy different toll levels on different part of the network according to their different cost levels.

The amended Directive does not foresee the possibility of differentiating according to the type of infrastructure or the area (see above, under differentiation, and Article 7.10). However, Article 7.1 permits application of such charges on parts of the TEN-network only, which is also a form of geographical differentiation.

Article 7a does not provide a final answer to this question, either. The costs taken into account in calculating the toll “must relate to the network ... on which the tolls are levied”, which neither permits nor prohibits splitting a national network into different segments and calculating their costs and tolls separately.

Article 7a

1. In determining the levels of weighted average tolls to be charged on the infrastructure network concerned or a clearly defined part of such a network, Member States shall take into account the various costs set out in Article 7(9). The costs taken into account shall relate to the network or part of the network on which tolls are levied and to the vehicles that are subject to the tolling. Member States may choose not to recover these costs through toll revenue or to recover only a percentage of the costs.

Existing systems also do not provide an answer on this point. Traditional tolling systems based on concessions define the toll level according to the costs of the network section in question. Thus, concessionaires in mountainous areas have higher costs than those elsewhere. Consequently, tolls for using the Mont Blanc tunnel are considerably higher than the average toll on other French or Italian motorways.

In 2004, Austria switched from a system of user charges to one of tolls on all motorways. This system is not based on concession contracts. Austria has already been levying tolls for using tunnels and mountain passes for a long time. Following introduction of the ‘*LKW-Maut*’ scheme in 2004, Austria continues to levy the so-called ‘*Sondermauten*’ (special tolls) on mountain links. These special tolls have been disputed. The European Commission had started court proceedings, but these were abandoned after the adoption of the amended Directive.

The conclusion to be drawn from these examples and the uncertain legal situation is:

- The levying of different toll levels on different parts of the network is not ruled out, as long as the toll levels can be justified by costs according to Article 7.9.
- It should therefore be possible to levy higher tolls for the use of tunnels, bridges and mountain passes than on the rest of the network.
- This seems more acceptable for concessions than for other cases.
- The system should not be discriminatory and should take the general principles of the European Treaty into due account.

Mark-ups to finance TEN-priority projects through mountainous areas

As a new instrument in sensitive mountain areas, the amended Directive introduces the possibility of levying additional mark-ups, specifying (Article 7.11) a long list of conditions for doing so:

- The road sections must be subject to acute congestion or the vehicles using these road sections must cause significant environmental damage.
- The revenues must be invested in priority projects of the TEN-network as defined in the TEN-guidelines 2004.¹³
- These projects must be in the same corridor as the road on which the mark-up is levied.
- The mark-up may not result in unfair treatment of commercial traffic

¹³ See Decision No 884/2004/EC, Annex 3.

- The maximum level for mark-ups is 15% of the average toll in general, or 25% of the average toll in the case of cross-border projects.

<p><i>Article 7</i></p> <p>11. Without prejudice to Article 9(1), in exceptional cases concerning infrastructure in mountainous regions and after informing the Commission, a mark-up may be added to the tolls of specific road sections:</p> <p>(a) which are the subject of acute congestion affecting the free movement of vehicles, or</p> <p>(b) the use of which by vehicles is the cause of significant environmental damage, on condition that:</p> <ul style="list-style-type: none"> - the revenue generated from the mark-up is invested in priority projects of European interest identified in Annex III to Decision No 884/2004/EC, which contribute directly to the alleviation of the congestion or environmental damage in question and which are located in the same corridor as the road section on which the mark-up is applied; - the mark-up, which may be applied to tolls varied in accordance with paragraph 10, does not exceed 15% of the weighted average toll calculated in accordance with paragraph 9 except where the revenue generated is invested in cross-border sections of priority projects of European interest involving infrastructure in mountainous regions, in which case the mark-up may not exceed 25%; - the application of the mark-up does not result in unfair treatment of commercial traffic compared to other road users; - financial plans for the infrastructure on which the mark-up is applied and a cost/benefit analysis for the new infrastructure project are submitted to the Commission in advance of the mark-up's application; - the period for which the mark-up is to apply is defined and limited in advance and is consistent in terms of the expected revenue to be raised with the financial plans and cost/benefit analysis submitted. <p>Application of this provision to new cross-border projects shall be subject to the agreement of the Member States concerned.</p> <p>When the Commission receives the financial plans from a Member State intending to apply a mark-up, it shall make this information available to the members of the Committee referred to in Article 9c(1). Should the Commission consider that the planned mark-up does not meet the conditions set out in this paragraph, or if it considers that the planned mark-up will have significant adverse effects on the economic development of peripheral regions, it may reject or request modification of the plans for charges submitted by the Member State concerned, in accordance with the procedure referred to in Article 9c(2).</p>

The list of conditions to be fulfilled before mark-ups can be applied is somewhat prohibitive. The most obvious applications are in fact on the Brenner link between Austria and Italy and the Fréjus link between France and Italy. On these two links, there are TEN-priority rail projects planned and also important links for Alpine road freight crossings on the same corridors. In addition, mark-ups could also be applied to collect revenues for the central Pyrenean rail tunnel. However, this link still has quite a low volume of haulage transport, as most of the exchange between the Iberian Peninsula and Europe goes by way of the coastal links to the east and west of the Pyrenees. The Directive does not clearly define the meaning of 'same corridor'. It is therefore unclear whether mark-ups might also be levied on the coastal links to finance the central rail tunnel. The same question arises on the Alpine corridors. In both cases there are parallel links, e.g. Tauern in Austria and Mont Blanc, Montgenèvre or even the Mediterranean coast link between France and Italy. From the perspective of transport management, it makes sense to allow mark-ups on all parallel links, to avoid traffic diverting to cheaper routes.

Regulatory charges

Article 9 of the amended Directive contains a list of taxes or charges that Member States may apply under subsidiarity. With regard to sensitive areas, both urban and mountainous, Article 9.1a allows the application of regulatory charges to combat traffic congestion or environmental impacts.

<p><i>Article 9</i></p> <p>1a. This Directive shall not prevent <i>the non-discriminatory</i> application by Member States of</p>

- (a) regulatory charges specifically designed to combat time and place-related traffic congestion;
- (b) regulatory charges designed to combat environmental impacts, including poor air quality on any road, notably in urban areas, including trans-European network roads crossing an urban area.

Although the text explicitly mentions urban areas, regulatory charges may also be applied in mountainous areas. Urban areas are mentioned merely as an example that regulatory charges can, in particular, be applied in urban areas because of the considerable congestion and environmental problems there. Indeed, the Commissioner for transport, Jacques Barrot, and the director of land transport at DG TREN have confirmed during negotiations on the amended Directive that the relevant part of this text is 'on any road'. The same should apply to environmental impacts: the text mentions only 'poor air quality', but regulatory charges could equally well be applied to other environmental impacts, including for example noise.

The amended Directive includes no further concrete elucidation of how regulatory charges might be applied. This is a matter for Member States, which need only adhere to the general rules of the European Treaty (see section below). Whatever the case, application of regulatory charges on major links for European freight traffic through mountainous areas is not likely to remain undisputed and will probably be decided by a court ruling. Nevertheless, both the Treaty and several decisions by the European Court of Justice acknowledge the scope for restricting the free flow of goods under certain conditions, amongst others environmental protection and citizen health.¹⁴

Application of regulatory charges in sensitive mountain areas seems feasible, but needs to be implemented cautiously within the basic rules of the Treaty.

Differentiation between local and transit traffic

Sensitive mountainous areas are also often rather remote, with limited economic activity compared to the average of the country concerned. In all such areas tourism is however a key economic factor and delivery of goods to these areas is important, not only for local residents but for also for the tourism sector. Against this background, local transport and import/export transport to and from these areas have a completely different function and significance in comparison with transit traffic crossing these areas without contributing to their economic development.

Differentiation between local and transit traffic is however very limited under the basic principles of the European Union (see also following section). In addition, the amended Directive contains two recitals that also underline the limits of such differentiation. Recital 6 allows for tolling only parts of the network, but in such a way that non-local traffic is not discriminated against. This is clearly directed towards Member States that intend to levy tolls only on links highly frequented by non-domestic users, which is the case on the major links through sensitive mountain areas used by HGVs. Recital 13a focuses on the use of tolling instruments in non-Member States. These countries should not adopt measures that discriminate against transit traffic. These recitals reflect general rules applied by the Treaty, as described below.

Recital 6

(6) For reasons of cost efficiency in the implementation of tolling systems, the entire infrastructure to which a toll relates may not necessarily be subject to access restrictions controlling tolls charged. Member States may choose to implement this Directive through the use of tolls at only a particular point on the infrastructure to which the toll relates. This should not discriminate against non-local traffic.

Recital 13a

(13a) In order to prevent traffic being diverted because of different regimes between EU Member

¹⁴ ECJ decision of 15 November 2005 on case C-320/03; Treaty of the European Community, Consolidated version, December 2004, especially Art .30.

States and third countries, the Commission should try to ensure that, when negotiating international agreements, no measures are taken by third countries e.g. a transit right trading system that might have a discriminatory effect on transit traffic.

Due to their different nature, the requirement of non-discrimination is not entirely applicable to local versus non-local traffic and there is therefore some freedom to differentiate tolls accordingly. On its own however, a different nationality with regard to the vehicle or the origin or destination of the cargo does not meet the criteria for being a 'different' kind of traffic. Tolls may not be differentiated along national borders without being considered discriminatory.

General principles to be considered

The general principles of the European Union are laid down in the Treaty of Nice. One important objective of the European Union is to establish an internal market, thereby permitting the free movement of goods, people, capital and services (Article 14).

Under the heading 'free movement of goods', the Treaty explains what Member States may *not* do in arranging for the free movements of goods; these activities relate mainly to customs or quantitative restrictions on imports and exports. Article 30, however, allows restrictions if they can be justified by public security or the protection of health and human, animal or plant life. This creates scope for introducing restrictions for environmental and health reasons.

Under the heading 'Common Transport Policy', discrimination on the grounds of the origin and destination of the goods is not allowed.

<i>Article 14 (Treaty of Nice, Heading 'Internal Market')</i>
1. The Community shall adopt measures with the aim of progressively establishing the internal market over a period expiring on 31 December 1992, in accordance with the provisions of this Article and of Articles 15, 26, 47(2), 49, 80, 93 and 95 and without prejudice to the other provisions of this Treaty.
2. The internal market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of this Treaty.
3. The Council, acting by a qualified majority on a proposal from the Commission, shall determine the guidelines and conditions necessary to ensure balanced progress in all the sectors concerned.
<i>Article 23 (Treaty of Nice, Heading 'Free movement of goods')</i>
1. The Community shall be based upon a customs union which shall cover all trade in goods and which shall involve the prohibition between Member States of customs duties on imports and exports and of all charges having equivalent effect, and the adoption of a common customs tariff in their relations with third countries.
2. The provisions of Article 25 and of Chapter 2 of this Title shall apply to products originating in Member States and to products coming from third countries which are in free circulation in Member States.
<i>Article 25 (Treaty of Nice, Heading 'Free movement of goods')</i>
Customs duties on imports and exports and charges having equivalent effect shall be prohibited between Member States. This prohibition shall also apply to customs duties of a fiscal nature.
<i>Article 28 (Treaty of Nice, Heading 'Free movement of goods')</i>
Quantitative restrictions on imports and all measures having equivalent effect shall be prohibited between Member States.
<i>Article 29 (Treaty of Nice, Heading 'Free movement of goods')</i>
Quantitative restrictions on exports, and all measures having equivalent effect, shall be prohibited between Member States.
<i>Article 30 (Treaty of Nice, Heading 'Free movement of goods')</i>
The provisions of Articles 28 and 29 shall not preclude prohibitions or restrictions on imports, exports or

goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans, animals or plants; the protection of national treasures possessing artistic, historic or archaeological value; or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between Member States.

Article 75 (Treaty of Nice, Heading 'Common Transport Policy')

1. In the case of transport within the Community, discrimination which takes the form of carriers charging different rates and imposing different conditions for the carriage of the same goods over the same transport links on grounds of the country of origin or of destination of the goods in question shall be abolished.

2. Paragraph 1 shall not prevent the Council from adopting other measures pursuant to Article 71(1).

3. The Council shall, acting by a qualified majority on a proposal from the Commission and after consulting the Economic and Social Committee, lay down rules for implementing the provisions of paragraph 1.

Annex 3: Situation and opportunities in Austria

a) Current situation

On 1 January 2004, Austria introduced a distance-related fee for all passenger and freight vehicles over 3.5 tonnes. This fee, known as '*LKW-Maut*', is levied on motorways and certain express roads. The tariff depends on the number of axles only, with no differentiation according to emission class (see table).

Austrian LKW-Maut fees by vehicle category, 2006 (€ per vehicle-km, excl. VAT)			
	2 axles	3 axles	4 or more axles
Fee	€ 0.130	€ 0.182	€ 0.273
Factor increase	(1)	1.4	2.1

The average fee of the Austrian scheme is about € 0.22 per vehicle kilometre. The tariff level is designed to cover the infrastructure costs, including the debts of the motorway company ASFI-NAG associated with earlier construction work. As stated, the fee is differentiated only according to number of axles, with no higher charges for more polluting lorries and thus no incentives to use cleaner vehicles.

On some links through the Alps, higher fees must be paid. These so-called '*Sondermauten*', or 'exceptional tolls', are levied on the Brenner, Tauern, Pyhrn, Karawanken and Arlberg links.

Two years into the scheme, experience is fairly positive:

- The LKW-Maut was successfully implemented despite strong opposition at the outset.
- The scheme now has high acceptance among users.
- The scheme is based on a well known and simple technology (DSRC, microwave) which makes it reliable (99.9% correct transactions).
- It is also simple and readily understandable for users and causes them only low equipment costs (€5 for a "Go-Box", free to install in vehicle).
- Revenues in 2005 totalled € 780 million.

On certain links there is diversion of traffic from the tolled motorway to free roads, which has a negative impact on traffic flow as well as affecting local citizens.

Legal framework

In the mid-1990s the Austrian government decided to introduce a time-dependent vignette for cars (called '*Pickerl*') and a distance-related fee for heavy vehicles. The parliament approved the requested law in 1996, and replaced it with more detailed legislation in 2002.

Technical system

The Austrian LKW-Maut is based on a DSRC with a simple tag (Go-Box) in the vehicles and gantries on the motorways. All vehicles must be equipped with this on-board unit. It is a so-called open system, in contrast to a closed system whereby the gantries are located at motorway entries and exits.

The operating costs of the system are about 4% of revenues, while enforcement costs total about 12% of revenues.¹⁵

b) Plans

There are no plans to extend the LKW-Maut scheme to other roads. Nor are there any concrete plans at the moment to introduce differentiation according to emission class. There is some discussion regarding the levying of mark-ups in sensitive alpine areas, but as yet no concrete details are available.

c) Opportunities

Although Austria already applies distance-related charges on motorways for vehicles over 3.5 tonnes, the amended Directive provides the following additional opportunities:

- Extension to the entire road network: The new Directive gives Member States the opportunity to implement charging systems on roads other than the TEN-R: on these roads, charges may be levied under the rules of the Treaty rather than under the Directive. There is therefore scope for Austria to extend its charging systems from motorways to the entire road network.
- Differentiation by vehicle emission class or emissions: Although there are a few exceptions, Member States will anyway have to differentiate their charging systems according to emission classes or PM10 or NOx emissions by 2010.
- Regulatory charges: These could be introduced in congested areas or in areas with environmental problems.
- Mark-ups: These are certainly an important option for alpine areas and mountain passes in Austria.

¹⁵ Friedrich Schwarz-Herda, Austrian Federal Ministry for Transport, Innovation and Technology (BMVIT) *Interurban road pricing: The Austrian Experience*, presentation to IMPRINT-NET group, Brussels, 25.04.06.

Annex 4: Situation and opportunities in Germany

a) Current situation

Germany quit the Eurovignette agreement (with Benelux, Sweden and Denmark) at the end of August 2003, on which date the time-dependent vignette was to be replaced by a distance-related fee called '*LKW-Maut*'. Owing to technical problems, the launch of the system was delayed until 1 January 2005.

The objective of the LKW-Maut is to raise revenues to finance new transport infrastructure. The German government is pursuing an integrated policy to link transport modes and thus intends to spend the revenues on new roads, railways and inland waterways. The aim is to remove bottlenecks or congestion ('*Anti-Stau-Programm*'). In October 2003 a public institution for transport infrastructure financing was created. Its main task is re-investment of the revenues from the LKW-Maut in transport projects.

The fee is levied only on motorways and on vehicles over 12 tonnes. Its level depends on the number of axles and emission class of the vehicle and varies between €0.09 and €0.14. Under the terms of Directive 1999/62, only infrastructure costs were taken into account in calculating the fee. An independent study has calculated the infrastructure costs of motorway use by HGVs to be € 3.4 billion per year, corresponding to an average weighted cost of €0.15 per kilometre. At present the average fee is only € 0.124 cents per kilometre, owing to the compensation scheme in place for the haulage sector. In principle this compensation is to be achieved through a cut in fuel tax. In January 2006, however, the European Commission objected to the compensation scheme proposed by the German government. Once a compensation scheme has been accepted, the average weighted fee will rise to € 0.15 cents.

Legal framework

The legal framework of the LKW-Maut was laid down in a law adopted by the German parliament in 2002.

Technical system

The German LKW-Maut is based on GPS/GSM technology. Satellite navigation (GPS) locates the vehicle via an on-board unit, i.e. checks whether it is on a charged motorway or on another road. A cellular network (GSM) communicates the fees to be paid to the central office, which then invoices users. Enforcement is by means of microwave technology (DSRC). The technology was a real innovation and had never previously been used for tolling. This, along with the overly ambitious time schedule, were responsible for the initial delay. In the meantime, though, the system is working well and requires only limited roadside equipment. It is also fairly flexible with regard to extension to other parts of the network. However, the semi-manual pre-booking system for users without an on-board unit (OBU) does not have the same flexibility. In the current motorway tolling system it is already rather impractical, but in an extended system it will not be workable at all. Currently, only 10% of users are not equipped with an OBU.

b) Plans

There are no fundamental plans to change the current system, although some parallel roads to which traffic is currently diverting are to be included in the future.

c) Opportunities

Given the provisions of the amended Directive, the current German system can be:

- extended to encompass the entire network;
- extended to vehicles under 12 tonnes.

Annex 5: Situation and opportunities in countries with traditional motorway operators (F, E, GR, I, P)

In France, Spain, Greece, Italy and Portugal, parts of the motorway network have been operated by the private sector for several decades now. These operators have the right to levy tolls for use of their motorways. Toll levels are generally part of the contract between the national authorities and motorway operators and may thus differ within a given country from motorway to motorway according to the relevant contracts. The toll level covers operator costs, including a surplus as a profit. Although the tolls are distance-based, their level is not usually indicated per kilometre but in the form of a matrix from motorway entry to exit. These schemes cover all types of vehicles, i.e. motorcycles, cars and light and heavy goods vehicles. None of the schemes differentiates tolls according to emission classes or emissions.

FRANCE

a) Current situation

In France, there are currently thirteen tolled motorway operators with a network length varying from 2.5 km to almost 3000 km. These operators are responsible for single bridges, tunnels or an entire motorway network in a particular region. The national umbrella organisation of motorway operators is ASFA (Association des Sociétés Françaises d'Autoroutes et d'ouvrages à péage).

Parts of the motorway network are purely public roads, with no tolls. These motorways are located mainly in agglomerations, e.g. around Paris and in Alsace.

There is no common national toll level, all the motorway operators applying different fees. Frequent users are eligible for considerable discounts.

b) Plans

There are no major plans to change the tolling schemes. A proposal by a politician from Alsace, currently being examined at the national level, envisages a fee being levied on motorways and other 'first-class' roads in Alsace, where the number of heavy goods vehicles has increased significantly since Germany introduced the 'LKW-Maut'.

c) Opportunities

For France, the amended Directive offers opportunities to levy tolls or fees on all motorways and on all other roads. Tolls could also be differentiated according to emission class and emissions. In the Alps and Pyrenees, France has the opportunity to levy mark-ups. In urban areas and other areas with environmental problems, regulatory charges could also be levied.

The amended Directive includes a maximum rebate level for frequent users of around 13%. In certain cases the current rebate is considerably higher.

SPAIN

a) Current situation

In Spain, there are currently 30 tolled motorway operators with a network length from 3 km to almost 470 km. ASETA (Asociación de Sociedades Españolas Concesionarias de Autopistas, Túneles Puentes y Vías de Peaje) is the umbrella organisation of these operators.

Only parts of the Spanish motorway network are tolled (about 2800 km). There is no common national toll level.

b) Plans

There are no known plans for future changes to the tolling system.

c) Opportunities

For Spain, the amended Directive offers opportunities to levy tolls or fees on all motorways and on all other roads. Tolls could also be differentiated according to emission class and emissions. In the Pyrenees, Spain has the opportunity to levy mark-ups. In urban areas and other areas with environmental problems, regulatory charges could also be applied.

ITALY

a) Current situation

In Italy, there are currently 24 tolled motorway operators administering a total network length of about 6000 km. Half of this is operated by Autostrade S.p.A. AISCAT (Associazione Italiana Società Concessionarie Autostrade e Tafori) is the umbrella organisation of these motorway operators. Some motorways in Southern Italy are not tolled.

There is no common national toll level. In Italy, frequent users are eligible for a considerable discount on official tolls.

b) Plans

There are no known plans for future changes to the tolling system

c) Opportunities

For Italy, the amended Directive offers opportunities to levy tolls or fees on all motorways and on all other roads. Tolls could also be differentiated according to emission class and emissions. In the Alps, Italy has the opportunity to levy mark-ups. In urban areas and other areas with environmental problems, regulatory charges could also be levied.

The amended Directive includes a maximum rebate level for frequent users of around 13%. In certain cases the current rebate is considerably higher.

PORTUGAL

a) Current situation

In Portugal, the tolled motorway network comprises 11 motorways with a total length of about 1000 kilometres. It is operated by BRISA.

b) Plans

There are no known plans for future changes to the tolling system.

c) Opportunities

For Portugal, the amended Directive offers opportunities to levy tolls or fees on all motorways and on all other roads. Tolls could also be differentiated according to emission class and emissions. In urban areas and in other areas with environmental problems, regulatory charges could also be levied.

Annex 6: Situation and opportunities in countries with traditional user charges

Belgium, Denmark, Luxembourg, the Netherlands and Sweden have operated a Eurovignette system since 1 January 1995 (until 31 August 2003 Germany also participated). The vignette fees apply to the motorway network, and certain 'national' roads, for vehicles over 12 tonnes on the basis of EU Directive 1999/62. The fee is time-based and works on a pre-paid basis. The certificates issued are mutually recognised in all five countries. According to this system, the payment of a specified amount gives hauliers the right to use the motorways of the participating Member States for a given period (one day, week, month or year). Each participating country is responsible for all matters relating to payment of the Eurovignette on its own territory.

Differentiation is on the basis of the environmental performance of the vehicle (EURO class) and number of axles and is in the form of a fixed annual fee. The maximum annual charges are currently set at the levels shown in the table.

Eurovignette fees by vehicle category, 2006 (€ per year)		
	3 axles	4 or more axles
<i>EURO 0</i>	€ 1,332	€ 2,233
<i>EURO I</i>	€ 1,158	€ 1,933
<i>EURO II</i>	€ 1,008	€ 1,681
<i>EURO III</i>	€ 876	€ 1,461
<i>EURO IV and less polluting</i>	€ 797	€ 1,329

Source: Directive 2006/38/EC, Annex II: OJ L 157/8, 9 June 2006.

BELGIUM

a) Current situation

In Belgium, besides the Eurovignette for HGVs there is also a toll for all vehicles using the Liefkenshoek tunnel on the R2 ring road around Antwerp.

b) Plans

In Belgium, road charging systems are currently under discussion at federal and regional government levels. In June 2006 the regional governments of Flanders and Wallonia agreed to undertake a study of the possibilities for introducing a vignette for vehicles under 12 tonnes, intended to run alongside the current Eurovignette scheme for HGVs. The nationwide scheme is planned for introduction in January 2008 and involves an electronic vignette, based on number plate recognition technology. As with the Eurovignette, the charge for lighter vehicles will be time-based (annual / monthly, etc.) and apply to foreign and domestic vehicles. The vignette should not entail extra costs for Belgian citizens, and compensation by reduced circulation taxes is under discussion.

An interministerial conference will decide on the precise details of the scheme following the results of the study, which should be presented in autumn 2006.

The all-user vignette as discussed will be time-based rather than distance-based, so it will create no incentive to reduce journeys within a given time period.

c) Opportunities

The amended Directive offers an opportunity to switch from time-based to distance-based fees for vehicles over 3.5 tonnes, a move that would accurately reflect vehicle road usage and is also perceived as fairer. Conversion to a distance-based system would require new infrastructure and technologies (as would the planned e-vignette scheme for vehicles under 12t). The Directive also introduces the opportunity of including the entire road network in the Eurovignette.

Under the amended Directive, Member States operating road charging will, with a few exceptions, have to differentiate charging systems for all vehicles according to emission class or PM10 or NOx emissions from 2010. This could include differentiation by EURO classes, inc. EURO 0-IV.

Regulatory charges could be introduced in areas with environmental problems; in the case of Belgium, this could include the main cities.

DENMARK

a) Current situation

Besides the Eurovignette scheme, Denmark also has tolls on several sections of its infrastructure, including the E20 motorway bridges across Storebælt and Øresund. Charges on these sections are based on vehicle height and length. There is no differentiation on the basis of emission class.

b) Plans

There are currently no plans to change the Eurovignette charging scheme in Denmark.

c) Opportunities

A distance-based, rather than time-based vignette, covering the whole road network, would be feasible under the amended Directive. A distance-based system would, however, require installation of new charging technologies (GPS/GSM or DSRC) to monitor vehicles. The Directive also allows fees to be charged on vehicles over 3.5 tonnes. Regulatory charges could be introduced in polluted urban areas.

NETHERLANDS

a) Current situation

Besides the Eurovignette scheme, the Netherlands also has tolls on certain sections of its infrastructure, including the Westerschelde Tunnel on the N62. The toll for this tunnel is differentiated into four categories based on vehicle length and height, but not by emission class.

b) Plans

Plans to introduce road charging in the Netherlands have been under discussion for many years, but the highly politicised nature of the issue has led to many delays. Road charging is currently being discussed in a multi-stakeholder committee set up by the transport minister. Car passenger charging is the main focus of the current discussion, rather than HGVs, and a compromise has been reached on a road pricing scheme for all vehicles. Guidelines have been agreed for the basis of such a system, designed for introduction by 2012. A decision on whether or not to introduce the system has been postponed until the next government.

The proposed kilometre charging system will include all vehicles and the entire road network. The technical details are as yet undecided, but it is expected that a GPS-based system will be most appropriate to the proposed system.

Distance-based road charging will partly replace the current purchase tax on vehicles and the annual vehicle tax for private cars (as yet there have been no concrete decisions on HGVs). The purchase tax for passenger cars is already differentiated according to environmental characteristics, including fuel consumption, and the annual vehicle tax is differentiated by vehicle weight. Road charging will therefore also incorporate some differentiation on the basis of environmental characteristics and impacts.

c) Opportunities

In addition to the plans outlined above (km-charging, all vehicles, entire road network, differentiation for environmental characteristics), the amended Directive also permits regulatory charging in polluted urban areas

SWEDEN

a) Current situation

In Sweden, Eurovignette fees are levied on lorries over 12 tonnes and on lorries over 7 tonnes with a trailer. There is also a toll for the E20 motorway bridge across Øresund (see above, under Denmark). The city of Stockholm is currently operating a trial congestion charge scheme for all motor vehicles (January-July 2006). The outcome of a referendum in September 2006 will determine whether the congestion charge should operate permanently.

b) Plans

A government study on the preconditions for a kilometre charge is underway, with results to be presented in autumn 2006 (announced in the transport bill presented 22 March 2006). The Swedish government plans to present a concrete proposal for a distance-based tax to parliament in 2007 and this should come into force around 2010-2011. Lower fees for some regions and industries (notably forestry and the Northern Inland region) are under discussion, but the km-charge will apply to both Swedish and foreign HGVs. The possibility of refunding part of the diesel tax to vehicles affected by the km-charge is under discussion.

As yet, the minimum weight limit (3.5, 7.5 or 12 tonnes) remains undecided. This depends largely on any decision on diesel tax refunds.

The basis of fee differentiation is also undecided, but some component to allow for differentiation based on environmental characteristics (EURO emission standards) is likely to be incorporated.

c) Opportunities

The amended Directive permits inclusion of the entire road network, although variations may be permitted for certain regions, as mentioned above. The change from a time-based vignette to a kilometre charge would require installation of new technologies. Fees can be applied to vehicles over 3.5 tonnes. Regulatory charges can be introduced in areas with environmental problems or congestion, such as urban areas.

Annex 7: Situation and opportunities in countries with no charging systems

Several countries do not presently have any charging schemes for road infrastructure. These include the UK, Finland, Estonia, Latvia and Lithuania, the first two of which are currently examining the feasibility of introducing such schemes. Ireland currently has three tolled motorway links but no widespread schemes. The Irish National Roads Authority is however considering construction of new toll roads under public-private partnerships.

FINLAND

a) Current situation

In Finland, there is currently no user charging on any roads or motorways.

b) Plans

There are no concrete plans to introduce road user charging in Finland. However, a preliminary study has been undertaken (finalised March 2006) on road charging for HGVs and private cars. The study is part of the work of a governmental committee on infrastructure financing and was commissioned by the Ministry of Transport and Communications and the Road Administration.

The aim of the study was to describe the international legal framework and various options for applying charges (including network and vehicles to be charged, type of charge, charging technologies and enforcement issues). The report examines systems, studies and experiences in several countries as well as national and international agreements and legislation and general user charging contacts. Furthermore, various options for responding to the changing conditions for transport taxation and charging systems are described from a Finnish point of view (including legal and financial aspects, in particular). The study considered vignettes, urban charges and HGV fees. The issue is very closely linked to the ongoing debate on the need for changes to the country's tax system. Although possibilities and implementation issues are also discussed, the study makes no specific proposals or recommendations.

The study has sparked discussion of the issue in Finland. Hauliers are in favour of charging the large number of foreign (mainly Russian) HGVs driving through Finland. There is a great deal of interest in the urban charging schemes in place in London and Stockholm. There seems to be greatest interest in kilometre-based charging.

c) Opportunities

Finland could introduce a road charging scheme as outlined by the amended Directive, applying a distance-based fee to all vehicles over 3.5 tonnes on all roads. Differentiation on the basis of emission class could lead to renewal of the fleet with cleaner vehicles. Regulatory charges could be applied in areas with environmental problems. However, political and economic resistance is to be foreseen on the part of particular industries (the timber and paper industries, for example) and remote regions, as is the case in Sweden.

UNITED KINGDOM

a) Current situation

There is no nationwide road charging scheme in the UK. With the exception of a toll-paying section on the M6 and certain infrastructure sections (tunnels, bridges), there are no motorway charges. The London congestion charge is widely viewed as successful. Several other cities including Cambridge, Durham, Bristol, Bath, Greater Manchester, Shrewsbury, Tyne and Wear (around Newcastle-upon-Tyne) and the West Midlands (around Birmingham) are among the authorities developing road charging proposals.

b) Plans

The introduction of lorry road user charges (LRUC) was been postponed indefinitely, but would have introduced fees for vehicles over 3.5 tonnes on all roads, with fee differentiation by vehicle class. Cost-coverage was seen as insufficient under plans to only include HGVs on all roads, so plans will probably be extended to include private vehicles, which will take considerably longer to design and implement.

However, the new transport minister from May 2006, Douglas Alexander, has pronounced himself in favour of road charging with the announcement of GBP10 million funding for the development of a nationwide scheme. The fund is intended for research by the private sector into technologies allowing drivers to pay by the mile. The LRUC plans may be reprised with some adaptations.

Any proposed scheme will be distance-based and intended to minimise the environmental impact of the transport system as well as reduce congestion. Congestion charges and motorway tolls are amongst the schemes likely to be considered. There are on-going discussions about interoperability and technical compatibility of local congestion charges and a nationwide scheme. However, implementation within a decade is seen as unlikely.

c) Opportunities

The amended directive gives Member States the right, based on subsidiarity, to levy regulatory charges for congestion and environmental purposes. The implementation of such systems could be extended to other roads in polluted or congested areas of the UK.

The intention of road tolling in the UK is firstly to reduce congestion, and secondly to reduce environmental impacts. To this end, fees should be differentiated by emission class and environmental characteristics to encourage cleaner vehicles.

Annex 8: Situation and opportunities in new Member States with fragmented systems

Among the new Member States, several already apply some kind of user charging on their (growing) motorway networks. Slovenia has a long-established system of charges for motorway use. In Hungary, Slovakia and the Czech Republic, vignette stickers are compulsory on certain motorway sections, while in Poland a toll is charged on a few sections. Several of these countries plan to change or extend their road charging systems in the near future.

CZECH REPUBLIC

a) Current situation

Since 1995 the Czech Republic has operated a time-based user charge (vignette) for all vehicles with four wheels or more. Vignettes are compulsory on all motorways and expressways. This currently applies to 740 km of the road network (of a total of approx. 900 km). The legal basis for the vignette is the EU legislation.

The level of the fee varies according to the total weight of the vehicle and trailer. There are three weight classes and vignettes are available for various time periods (see table).

Czech vignette fees by vehicle category, 2005 ¹⁶			
	< 3.5 tonnes	< 12 tonnes	> 12 tonnes
1 day			CZK 200 (€ 7.20)
15 days	CZK 200 (€ 7.20)	CZK 650 (€ 22.90)	CZK 1300 (€ 45.70)
2 months	CZK 300 (€ 10.50)	CZK 1750 (€ 61.50)	CZK 3500 (€ 123)
1 year	CZK 900 (€ 31.70)	CZK 7000 (€ 246)	CZK 14,000 (€ 492)
Fine for driving without a valid coupon: CZK 15,000 (€ 528)			

Source: Czech Ministry of Transport <http://www.mdcr.cz/en/>

In 2005, 5.9 million coupons were sold (all types, time periods and vehicles), with a turnover of CZK 3 billion (approx. € 0.1 bn). The pricing is not intended to take into account the true cost of damage, maintenance costs and the cost of building new roads. The road vignette currently accounts for 4% of infrastructure financing. Other sources of financing for infrastructure building and maintenance (road, rail and waterways) include government grants (57%), fuel tax (25%) and road tax (14%)¹⁷.

¹⁶ Based on an exchange rate, as of 15/15/06, of € 1 = CZK 28.420, with Euro figures rounded.

¹⁷ Michal Tesar, Czech Ministry of Transport, *The charging of vehicles for the use of road infrastructure in the Czech Republic*, presentation at T&E conference, Vienna, 27/10/2004.

b) Plans

An international tender was put out by the Czech Ministry of Transport in 2005 for the installation and operation of an electronic fee collection (EFC) system for heavy goods vehicles over 3.5 tonnes gross weight.

A law on EFC (Government decree N° 481, 19/05/2004) has been adopted and the government is currently preparing follow-up regulations. Final details of fee level and the roads subject to the fee will be determined in preparation for the implementing decree in autumn 2006. According to the amendment of the Road Infrastructure act, implementation of EFC for HGVs over 12 tonnes is due to begin on 1 January 2007.

The toll will apply to about 970 km motorways and expressways in all (including some sections due for completion 2006-7), plus approximately 1100 km of selected 'first-class' roads (including roads parallel to motorways and expressways) used mainly for international freight transport. With regard to lorries over 12 tonnes, this is forecast to affect 60,000 to 65,000 domestic and 30,000 to 35,000 foreign vehicles. This reflects the growing role of the Czech Republic as a transit country for HGVs: according to Ministry of Transport figures, 20-30% of vehicles over 12 t merely transit through the country.

In terms of the technology to be used, all four bids submitted under the tender proposed CEN-TC278 European standard 5.8GHz DSRC passive transponder systems. The microwave system will allow free-flow tolling. The tender from the Kapsch-TrafficCom consortium was accepted in November 2005 and confirmed in March 2006. The contract is expected to involve construction of the EFC system and operation for ten years at a cost of € 640 million. The consortium plans to involve local subcontractors, which will entail around 60% of the project being handled by Czech companies. There is concern from some experts that there will be practical difficulties in extending the EFC to arterial roads using a DSRC system.

The government has postponed its decision on the fee level. However, it is expected to be around € 0.12-0.14 per km of motorway and limited-access highway, and € 0.07 per km on first-class highways. The proposed toll should be approximately equal to the fee in neighbouring Germany.

The fee level is expected to be differentiated according to: number of axles (2, 3, 4 or more); emission class (up to EURO II, EURO III or more); day/night (only on motorways and expressways).

The expected revenue from the fee is CZK 8-9 billion (€ 0.28-0.31bn). (For comparison, coupon revenue was CZK 2.2bn in 2005). The system is forecast to have paid for itself within two years. The main goal of introducing the heavy vehicle fee is to acquire funds to speed up completion of the motorway network, rather than reduce freight traffic. Slowing or halting the growth of such traffic is seen only as a secondary goal.

The fee for vehicles over 12 t is intended as a first step, with the limit being extended to include vehicles over 3.5 t at a later stage. The current vignette system will remain in place for vehicles under 3.5 t, and during the interim period also for vehicles under 12 t. There is currently a proposal before the Czech Parliament that would apply the tolls to lorries over 3.5 t. This is predicted to affect 105,000 - 115,000 domestic and 35,000 - 45,000 foreign vehicles over 3.5 t. In the Czech Republic, 10% of traffic over 3.5 t is thought to be transit traffic.

c) Opportunities

The fee could be extended to the entire road network, although this would be easier with GPS/GSM technologies. Applying fees to vehicles over 3.5 t would be possible from 2006 on-

wards and will be compulsory after 2012. Fee differentiation by emission class is especially important in countries like the Czech Republic with a high proportion of older vehicles in the fleet. A meaningful differentiation by environmental characteristics could be used to stimulate fleet renewal and promote cleaner vehicles.

Regulatory fees could be levied in areas currently suffering environmental damage, which could include urban areas, areas affected by industrial pollution and environmentally sensitive areas such as national parks or forests.

Under the subsidiarity principle, national governments can decide how to use revenues from the fee. The Directive recommends that revenues be used to optimise the transport system. They need not be earmarked for road construction, however, but could also be used for other investments, for example in alternative transport modes, public transport projects or remediation of pollution, or even for non-transport purposes.

HUNGARY

a) Current situation

In Hungary, motorway vignettes were introduced in January 2000 and today the country has a flat-rate, time-based vignette system on all its motorways (M0, M1, M15, M3, M30, M5, M7, M70). Several motorway sections are free of charge, however, because of concern about social impacts and political considerations. This applies mainly to conurbations, such as the M0 circular motorway around Budapest, and sections leading to national border crossings. The (wind-screen sticker) vignette applies to a total of 677 km of the network. The current flat-fee system does not take into account the distance travelled. Of the entire road network operated by the motorway companies in Hungary (including clearways, highways, junction points, rest areas and rest area roads), there are fees on 70% of the network, with 30% free of charge.

The State Motorway Management Company (Állami Autópálya Kezelő Zrt) is responsible for the operation, maintenance and administration of about 520 km of motorways (plus 127 km of expressways and main roads); while the Alföld Concession Motorway Company is responsible for the operation and maintenance of the M5 motorway (157 km).

The Hungarian vignette system currently recognises four vehicle categories, based on maximum permitted vehicle weight. Vignette price calculations are not based on the damage caused or costs engendered by motorway traffic. Prices vary depending on the time of year. The vignette prices for 2006 are shown in the following table.

Hungarian motorway vignette prices, 2006 (incl. 15% VAT) ¹⁸				
	D1: < 3.5 tonnes	D2: 3.5 – 7.5 tonnes	D3: 7.5 – 12 tonnes	D4 > 12 tonnes
1-day	-	-	-	2,000 (€ 7.70)
4-day	01.05 – 30.09: 1,520 (€ 5.85) otherwise: 1,170 (€ 4.50)	-	-	-
Weekly	2,500 (€ 9.60)	6,500 (€ 25.00)	10,000 (€ 38.50)	13,000 (€ 50)
Monthly	4,200 (€ 16.20)	12,500 (€ 48.00)	18,000 (€ 70)	22,500 (€ 86.50)
Annual	37,000 (€ 142)	106,000 (€ 408)	158,000 (€ 608)	190,000 (€ 730)

Note: The 1-day vignette in category D4 was introduced on January 1st 2005, following a warning from the EU Commission, requesting compliance with the Eurovignette Directive (1999/62).

Source: Adapted from http://www.aka.hu/angol/html/2_Prices/prices.htm

Revenues from the vignette are used for maintenance and construction of the motorway network. However, totalling some 22,000 million HUF (€85 million) in 2005, these revenues are not enough to cover the operational, maintenance and management costs of the motorway network managed by the State Motorway Management Company. The operating costs of the vignette system itself remain relatively low, though: about 5-7% of total gross revenue generated.

b) Plans

An advisory committee composed of experts from interested ministries, universities and the KTI research institute was set up in 2003 to define a long-term motorway toll strategy in compliance with EU Directives, as well as to support the activities of State Motorway Management Company. The committee worked on this issue until 2005. SMMC initiated and funded R&D activities to design a future strategy, following the recommendations of the committee.

Preparatory work on installing an electronic toll collection system on Hungarian motorways (and possibly also on certain parallel main roads) for HGVs over 3.5t is scheduled to begin in 2007-2008. The fee will be distance-based.

A call to tender for the project was put out in April 2006¹⁹ related to an ETC system to be installed and operated for five years on the entire motorway and expressway network. The system is to be operational from January 2007. The methodology of toll collection is to be determined and proposed by the potential bidder. The estimated amount of the requested ETC services is 3000-4000 million HUF (€12-15 million).

Proposed toll rates were defined by calculations based on the experience already gained in Switzerland, Austria and Germany. The proposed toll levels as well as the comparative figures are summarised below (see table).

¹⁸ Based on the average exchange rate in May 2006: € 1 = 260 HUF, with Euro figures rounded.

¹⁹ Contract Notice published on 11.04.2006; HU-Budapest: toll-collection services; 2006/S 70-073578, updated by Contract Notice : HU-Budapest: toll-collection services; 2006/S 84-089215.

Hungarian motorway tolls by vehicle category, proposed, with comparisons (Euro cent per vehicle-km ²⁰ ; in brackets, <i>in this table</i> , toll rate relative to D2)				
	<i>D1: < 3.5 t</i>	<i>D2: 3.5 – 7.5 t</i>	<i>D3: 7.5 – 12 t</i>	<i>D4: > 12 t</i>
<i>Cost based</i>	1.8	2.3 (1.0)	3.5 (1.5)	9.4 (4.1)
<i>Capital included</i>	2.8	4.0 (1.0)	6.2 (1.55)	15.6 (3.9)
<i>Socially acceptable</i>	4.5	9.0 (1.0)	13.6 (1.5)	19.0 (2.1)
<i>European average</i>	6.4	12.8 (1.0)	19.2 (1.5)	26.9 (2.1)
<i>Optimal</i>	8.3	11.6 (1.0)	16.6 (1.43)	20.1 (1.73)
<i>Maximal</i>	11.3	15.8 (1.0)	22.6 (1.43)	35.1 (2.22)
<i>Austria</i>	--	13.0 (1.0)	18.2 (1.4)	27.3 (2.1)
<i>Germany</i>	--	--	--	12.4
<i>Switzerland</i>			31.0	

Source: *BauConsult-Trafficon Report*, December 2005

The Directorate for Road Co-ordination and Management²¹ is responsible for toll policy and preparations for implementing electronic toll collection.

c) Opportunities

There is as yet little concrete information on the system to be established in Hungary. However, it appears that a distance-based scheme will include vehicles over 3.5 tonnes from the outset. Fee differentiation would appear to be on the basis of vehicle weight. In countries with an older vehicle fleet, like Hungary, it is especially important to differentiate on the basis of emission class, to encourage purchase of cleaner vehicles.

The possibility of introducing regulatory charges in areas with environmental problems or congestion could be important for certain Hungarian cities or regions.

POLAND

a) Current situation

National road transport fees

In Poland, operators of vehicles over 3.5 tonnes must purchase charge cards. The fees for use of national roads by a motorised vehicle are borne by operators (national and foreign). This applies to goods vehicles with a total weight of over 3.5 t, and passenger vehicles over 3.5 t designed for carrying more than nine persons. (Vehicles with a charge card are then exempt from the motorway tolls.)

The cards are time-based and are available with daily, weekly, monthly, 6-monthly and annual validity. The fee level varies according to vehicle type, duration of passage on national roads, total permissible weight (3.5–12t / >12 t), number of axles (2, 3, 4 or more) and emissions class (EURO 0 / EURO I). For a vehicle over 12 t with 4 or more axles, for example, an annual card costs 1900 PLN (€ 482)²² with a EURO I engine or 2200 PLN (€ 558) with EURO 0.²³

²⁰ Based on the average exchange rate in May 2006: €1 = 260 HUF.

²¹ Útgazdálkodási és Koordinációs Igazgatóság – ÚKIG, see: <http://ukig.kozut.hu/>

²² Exchange rate as of 15/05/06 : €1 = PLN 3.9348

²³ Source: General Directorate for National Roads and Motorways <http://tinyurl.com/z3rzv>

The legal basis is the Road Transport Act of 6 September 2001 (Dz.U. No 125, item 1371) and regulation of the Minister of Infrastructure of 14 December 2001 on the fees charged to transport operators using national roads (Dz.U. No 150, item 1684). Road tolls are collected by the concessionaires, who transfer them into the national road fund.

Motorway tolls

On certain Polish motorway sections (A1, A2, A4/A18) currently totalling just under 2000 km, tolls currently apply to all motor vehicles, except those over 3.5 t obliged to pay national road transport fees, as mentioned. The motorway toll scheme was introduced in April 2000. Different operators employ different systems and charge different fees on each motorway. However, there are usually five vehicle categories, differentiated by number of axles and vehicle weight. There are bulk discounts for frequent users.

b) Plans

According to current legislation (Toll Motorway Act 27/10/1994, Act concerning preparation and realization of national road investments 10/04/2003, and amendments 14/11/2003 and 02/07/2004), all motorways in Poland are to be toll motorways. Tolls will thus be introduced on all motorways as they are completed.

A draft law, yet to be approved by Parliament, outlines the plans for future changes. Tolls are to be extended to all national roads, including all motorways, expressways and standard two-lane roads, and would cover around 16,000 km in all. The proposal still outlines time-based fees (weekly, monthly, annual and daily fees), with fee differentiation based on vehicle type, weight (> 3.5 t, >12 t), and emission class (EURO 0 / EURO I / EURO II and above). The proposed system should bring in up to 50% more revenue for the national road fund.

No information is currently available on the proposed fee level.

According to the draft law, the system should come into force on 21 October 2006, depending on parliamentary approval.

c) Opportunities

In many respects the proposed system, depending on its eventual format after parliamentary debate, appears close to the scope allowed by the amended Directive. However, the proposal still outlines a time-based fee, whereas distance-based fees should rather be favoured.

The emissions classes EURO III and EURO IV should be included in the differentiation of fees, in order to provide some incentive for use of cleaner vehicles.

Possibilities to levy regulatory charges in polluted or congested areas could be applicable in Poland. Mark-ups may be applicable in sensitive mountain areas.

SLOVAKIA

a) Current situation

In Slovakia, a vignette system has been in place on approximately 320 km of highways and 70 km of expressways since the late 1990s. It applies to all vehicle categories. In addition, vehicles over 3.5 tonnes must also buy vignettes for 500 km of 'first-class' roads. Vignettes are time-based (annual, monthly, 8-day for all vehicles, plus daily vignettes for vehicles over 3.5 t). Prices

vary by vehicle weight. Vignette prices are not set to reflect the costs of maintenance, road building or damage. The fees are summarised in the table.

Slovakian vignette fees by vehicle category, 2005 ²⁴			
	< 3.5 tonnes	< 12 tonnes	> 12 tonnes
1-day	-	SKK 200 (€ 5.30)	SKK 300 (€ 8.00)
Weekly	SKK 150 (€ 4.00)	SKK 800 (€ 21.20)	SKK 1400 (€ 37.10)
Monthly	SKK 300 (€ 8.00)	SKK 2000 (€ 53.00)	SKK 3000 (€ 80.00)
Annual	SKK 1100 (€ 29.10)	SKK 7500 (€ 200)	SKK 15,000 (€ 400)
Fine for driving without a valid coupon: SKK 2000 (€ 53.00)			

Source: Prof. A. Timár: *Slovakia: Additional Information to Imprint-net members*, University of Pécs/Budapest University of Technology and Economics, May 2006.

Between 2000 and 2005, sales revenues from motorway vignette stickers approximately tripled, owing to a marked rise in traffic and increasing vignette prices. In 2004, Slovakia's motorway administration saw its year-on-year income rise by 75% to SKK 1120 million (€ 30.2 million) and in 2005 by a further 46% to SKK1600 million. In 2006 the National Motorway Company expects somewhat slower revenue growth, to an estimated SKK 1700 million.

b) Plans

The time-based vignette system will remain in place for all vehicles under 3.5 t and will be extended to 340 km of highways and 80 km of expressways. However, following a number of feasibility studies for electronic fee collection carried out in Slovakia, a 'pay-as-you-drive' fee will be introduced for vehicles over 3.5 t.²⁵

The Slovak Government approved a draft bill on EFC collection on certain roads on 22 February 2006. Slovakia will introduce a distance-based fee – based on the Austrian Maut model – for heavy vehicles in late 2007. Vehicles over 3.5 t will be subject to EFC on highways and expressways. This will later be extended to include trunk roads running parallel to these routes. Charges will also apply to new sections of motorway and the first-class road network as they are constructed.

The price per km will be differentiated by vehicle weight, number of axles and emission class, while providing for adaptation to national economic indicators (to be approved by the EU transport ministers). Plans for the scheme originally worked with an average estimated fee of 12 SKK per km for vehicles over 12 t. When the scheme is introduced, the price will be 4-6 SKK (approx. €0.11-0.16) per km on motorways and expressways and 2 SKK (€0.05) per km on parallel trunk roads.

²⁴ Based on an exchange rate, as of 15/05/06, of € 1 = SKK 37.750, with Euro figures rounded.

²⁵ ISIS S.A.: *Feasibility Study for Electronic Fee Collection in Slovakia*, Groupe EGIS, France, 2002-2004 EGIS Group; ISIS S.A.: *Extension of the estimates of traffic and toll revenues to smaller goods vehicles*, Groupe EGIS, France, 2005; Slovakian Transport Research Institute: *CONNECT – Study on economic, technical and legislative background for implementation of EFC*, Research Institute for Transport, Zilina, Slovakia, 2005-2006. Slovakian Transport Research Institute

The Slovak system will first use microwave technology similar to that used in Austria, but is planned to be modified to use satellite (GPS) technology after 2008-2012. Vehicles under 3.5 t, including private cars, are planned to be charged under this system from 2011 onwards.²⁶

There are currently no plans for mark-ups or regulatory charges in specific areas.

The initial cost of introducing the system was set at 15% of the revenues collected, but this figure had been underestimated and will now be over 20%. A revision of road tax in Slovakia is foreseen for the near future. The Slovak government hopes to raise more revenues from the new system to help finance the extension of the country's highway network. The fees will be used for paying future debt on loans from the EIB, other banks and private investors in the highway PPP systems.

The international call for tender for the new system will be launched in November 2006 and closed in February 2007. The selected provider should begin construction in March 2007 and will be responsible for establishing and administering the new system. Following trials, the system should be operational by the end of 2007 (delayed from the planned introduction date of mid-2006; this could be delayed further by the general election in 2006). The legal basis for the Slovakian scheme is the Electronic Charging Act passed by parliament. The supervisory authorities are the Ministry of Transportation, Posts and Telecommunications and the National Highway Company. The main criterion for selection of system and provider will be financial return on investment, as well as interoperability with other European systems.

c) Opportunities

Under the amended Directive, fees may be levied on all roads. An important possibility for Slovakia may be the mark-ups for sensitive mountain areas, especially for a new section of motorway under construction in the High Tatras mountains, where shadow tolls will be used initially.

Regulatory charges may also be viable in urban areas and other areas affected by pollution and / or congestion.

Revenues appear to be currently earmarked for further highway construction, but may, under the amended Directive, also be used for other purposes, which could include public transport schemes, alternative modes of transport, or any other purpose determined by the national government.

SLOVENIA

a) Current situation

Tolls have been collected on Slovenian motorways since 1973. All Slovenian motorways currently charge all vehicles for use, as does the Karavanken tunnel. Most motorway sections have a distance-based fee, although some have a flat-rate toll.

The legal basis of the Slovenian tolls is the 1994 Directive of the National Assembly's infrastructure and environment committee. The Decree on the toll on the use of certain roads has brought the Slovenian system of paying tolls into line with the European Union's Directives.

²⁶ Source: http://www.ibtta.org/files/PDFs/Kirchmayer_Povel.pdf

Toll stations are situated on regional borders and therefore mainly apply to long-distance transit traffic. The open system makes it possible to use a motorway within a given region without paying a toll.

An electronic toll collection system for cars, known as the ABC system, has been used in Slovenia since 1995, which has engendered substantial improvements in traffic flow and cut emissions by avoiding stop-starts at toll stations. The number of ABC users is rising: in January 2004, 170,000 electronic cards were in circulation and by January 2005 that number had increased to about 200,000.²⁷ Electronic fee collection is not currently used for HGVs.

As of August 2005, the Slovenian Motorway Company (DARS d.d.) manages and maintains 457 km of motorways and expressways and over 130 km of their access roads. About 84% of all roads are toll roads, totalling some 380 km. Tolls are collected at 26 toll stations with a total of 178 toll lanes (including the toll station on Karavanken tunnel).

The revenues collected are used to finance motorway management and maintenance, construction of new motorways and repayment of loans.

The tolls are distance-based for specific motorway sections. Monthly tickets can be bought for a predetermined distance, with the price being calculated as 40 times the toll for a specified section (pass toll station twice per day x 20 working days). Drivers can also pay for single trips, or use an ABC electronic card that charges per km driven. ABC cards are transferable between vehicles.

There are four vehicle categories, differentiated by vehicle height and number of axles.

Slovenian motorway tolls, 2006 (incl. 20% VAT) ²⁸		
Vehicle category	Description	Fee
1	Two axles, vehicle height above front axle up to 1.3 m	SIT 11,2083 (€0.05)
2	Two or more axles, vehicle height above front axle 1.3 m or more, max. permissible weight < 3.5 t	1.5 x Cat. 1 fee
3	Two or more axles, vehicle height above front axle 1.3 m or more, max. permissible weight > 3.5 t	2.75 x Cat. 1 fee
4	More than three axles, vehicle height above front axle 1.3 m or more, max. permissible weight > 3.5 t	4 x Cat. 1 fee

Source: <http://www.dars.si/index.php?maps=1>

b) Plans

The rapid increase in traffic in Slovenia of around 7% per is outstripping forecasts. Increasing transit traffic, which currently stands at 10-12% of all traffic, is of particular concern.

Plans to change the road charging system are under discussion in Slovenia. The intention is to follow the amended Eurovignette Directive closely, but no plans have yet been finalised. The use of EFC should be extended to HGVs as soon as possible, but no decision has yet been made on which technology to use in the short-term. The aim however is to introduce GPS technology by 2008-2012. The current microwave technology used for the ABC cards for private cars would need to be upgraded in any case.

²⁷ Source: <http://www.dars.si/index.php?id=59>

²⁸ Exchange rate as of 15/05/06: € 1 = SIT 239.62

In accordance with the amended Directive, the new system will almost certainly include differentiation of fees from the outset to reflect the environmental characteristics of vehicles.

Eventually, distance-based tolls could be applied to all vehicles on all roads, but this is a very long-term view, and there are currently no plans to extend charging to the entire road network. There are no plans for regulatory charges or mark-ups.

c) Opportunities

An important possibility for Slovenia could be the mark-ups for mountainous areas in the Alpine regions of the country. Regulatory charges may also be viable in urban areas and areas affected by pollution.

Revenues could be employed for non-road or non-transport purposes, which could include public transport schemes, alternative modes of transport or any other purpose determined by the national government.

