



**Position Paper: Infrastructure charging,
internalisation of externalities and fair
competition in transport**

- December 2010 -

Road-rail Combined Transport¹ is the system of transport, which brings the European concept of *co-modality* to success by effectively combining the flexibility of road transport in urban environments with the environmental sustainability, safety and reliability offered by railway technology. This unique system of transport is used in about 11% of continental transport chains in Europe² today.

The unaccompanied Combined Transport chain was found to emit about 75% less CO₂ and cause fraction of the transport-related externalities as compared with a pure road transport-chain³, while accompanied Combined Transport helps to save about 20-30% of CO₂ emissions vis-à-vis pure-road transport-chains. The substantial advantage of road-rail Combined Transport is specifically based on the externality-benefits of electrified rail over road transport⁴.

UIRR, the organisation which represents road-rail Combined Transport companies from across Europe, wishes to express its position on the impending measures planned by the European legislator to correct the imbalances which inhibit the full fledged development of this most environmentally sustainable mode of transport to the benefit of all.

The Commission's proposal of 8 August 2008 to amend Directive 1999/62/EC (amended by Directive 2006/38/EC)

- The original proposal was cautiously worded, limiting internalisation to those externalities which can be quantified and proven in an undisputed empirical fashion (through the CE Delft Handbook).

The European Parliament's vote on the Commission's amendment proposal (10 March 2009)

- Though the European Parliament was in a hurry prior to the elections to resolve on the dossier, it considered the proposal thoroughly and passed an improved comprehensive text onto the table of the Council.

The JRC Study of 14 January 2010 and the ProgTrans Study of 2 August 2010

- The Council of Ministers requested additional information from the Commission Services prior to considering the dossier. The necessary scientific research was done by the Commission's Joint Research Council and took the shape of a study unveiled in January 2010.
- The International Road Union commissioned a study of various artificially designed scenarios using the CE Delft Handbook from ProgTrans of Germany, who delivered their findings in August. ProgTrans concluded, to nobody's surprise, that contrary to the JRC study, Europe's economy would tremendously suffer if truckers were required to pay for the damages their traffic causes. Moreover, the study branded the largest transit countries of Europe, Germany and France, as shameless "profiteers" as the externality revenues allowed under the proposed new Directive would be the largest in these two countries.

¹ Two types of road-rail combined transport are differentiated: (i) unaccompanied, when goods packed into containers, swap-bodies or semitrailers are transferred from road vehicles to trains, and (ii) accompanied, or rolling-motorway, services, when complete tractor-trailers road-trains are transported using specialised rail wagons.

² UIRR estimation based on EUROSTAT, UIC and UIRR statistics

³ UIRR calculation based on the www.ecotransit.org tool for calculating transport-related CO₂ emissions

⁴ Straße und Schiene - Ökologische Vor- und Nachteile der Verkehrsmittel IFEU, "CO₂-Berechnung", part 1&2: "Alle Daten und Fakten zur Berechnung des LKW- & Bahn-Footprints", Verkehrs Rundschau, no. 42&43, Springer Verlag, Munich, 2009.; Hausberger, S. et al: Handbuch Emissionsfaktoren (HBEFA) des Straßenverkehrs, TU Graz, version 2.1, Berlin, 2004.; EXTERNE KOSTEN DES VERKEHRS 2004 INFRAS und IWW Universität Karlsruhe für UIC und CER; External Costs of Road, Rail and Air Transport - a Bottom-Up Approach Fraunhofer-Institut für Systemtechnik und Innovationsforschung 1998



The Council of Ministers' resolution of 15 October 2010

- The Council of Ministers successfully resisted the pressure of opposing stakeholders and reached a conclusion under the coordination of the Belgian presidency, which paves the way for the first time in EU history for legislation that allows the internalisation of some external costs of road transport.

How to proceed from hereon?

- In the short-run: UIRR wishes to encourage the European Parliament to adopt the Council text – without any major change – in second reading since differences in the decisions of the two legislative bodies are too great to bridge in a conciliation procedure; furthermore at this stage UIRR deems it more desirable to conclude the amendment, with all its known shortcomings, rather than risk any further loss of time.
- In the medium term: (i) draft legislation that declares the fuel excise tax as the means of internalisation of GHG emissions and excessive oil dependency attributable to transport; (ii) draft legislation which requires every Member State to introduce a distance-based electronic road tolling regime, including rules on how to calculate the toll rates, to adhere to the user-pays principle of the European Union, while (iii) the regimes of mandatory government fees in transport and the contents of the underlying services should also be harmonised.
- Design a temporary relief mechanism to transparently compensate transport modes which are disadvantaged by the present regulatory status quo as well as to serve as an indicator for the success of reducing public subsidies to transport.

Conclusions

It is UIRR's opinion that a liveable (sustainable) Europe can not be established and the European Union's climate change (CO₂ emission) targets can not be met without a significantly higher contribution of road-rail Combined Transport in Europe's longer-distance freight transport. The presently prevailing legislative imbalances and the resulting unfair competitive environment on the other hand prohibit the emergence of a healthy, balanced mix of transport modes in Europe's freight transport.

One of the most important tools of the European legislator to create the needed fair competitive conditions in the transport sector is the Eurovignette Directive, the currently debated amendment of which is long overdue. Moreover, UIRR believes that the new European Transport Whitepaper should reflect the measures proposed in this paper, and preparations for the Directive's next amendment as well as implementation of the other actions should be commenced swiftly.

It is UIRR's conviction that in case the recommended actions are put into practice doing business in transport will become more transparent and Combined Transport will continue to deliver increasingly favourable results in shifting traffic off Europe's roads onto rail and other sustainable modes of transport, thereby contributing to the creation of a more pleasant environment for people to live.

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Who is UIRR: Founded 40 years ago, in 1970, the International Union of Road-Rail combined transport companies (UIRR) represents the interests of a unique system of transport: through utilising Intermodal Loading Units (ILUs)⁵, or special wagons capable of carrying unmodified ordinary trucks⁶, Combined Transport operators catalyse the effective insertion of (electric) rail technology into the longer distance sections of continental freight transport-chains.

⁵ Containers, swap-bodies or semitrailers in what is called "Unaccompanied Combined Transport"

⁶ Rolling Motorway, or "Accompanied Combined Transport"



1. Introduction to the issue of regulating transport infrastructure access charging and internalisation of transport externalities

Road-rail Combined Transport⁷ is the system of transport, which brings the European concept of *co-modality* to success by effectively combining the flexibility of road transport in urban environments with the environmental sustainability, safety and reliability offered by electrified railway technology. Road-rail Combined Transport solutions were first offered on an experimental basis in Europe about 50 years ago. Attributable to a dynamic growth of about 7% year-on-year this unique system of transport is used in 11% of overland transport in Europe today, and nearly 17% of continental transport if excluding distribution type short-distance road haulage⁸.

An unaccompanied Combined Transport chain was found to emit about 75% less CO₂ and cause fraction of the transport-related externalities as compared with a pure road transport-chain⁹, while accompanied Combined Transport helps to save about 20-30% of CO₂ emissions vis-à-vis pure-road transport-chains. The substantial advantages enjoyed by road-rail Combined Transport are based on the externality-advantages of electrified rail over road transport¹⁰.

Combined Transport is ideal for any consignment destined to travel for 300 kilometres or more. Since about half of road tonne-kilometres are realised over 300km or longer distances, Combined Transport theoretically has a huge growth potential. The cost (price) of Combined Transport to shippers, unfortunately, does not reflect its comparative advantages; the heterogeneous road tolling schemes across Europe mean that trucks in most Member States appear artificially cheap when compared with rail transport, since rail is homogeneously required to pay a usage-based access charge for accessing every kilometre of the rail network. Vignette-type (time-based) road tolling schemes¹¹ exacerbate the situation, by outright encouraging the maximum possible utilisation of a truck with a vignette. Furthermore, considering that vignette revenues typically fall short of the actual costs, every taxpayer must foot the bill for constructing, maintaining and operating the public road network in place of (commercial) road users.

The lack of internalisation of external costs also contributes the prices of road transport appearing cheap (since the externalities of this mode are the greatest); thanks to the taxpayer, who instead of the users of transport absorbs the consequences of these transport externalities. All this translates to the substantial subsidisation of road transport; moreover it is done in a system which results in additional motivation to employ more road transport than would be necessary, or economically justified.

Recognising the above detailed anomalies the European legislator began regulating the issue of charging for access to public road transport infrastructure in 1999¹², followed by legislation which addresses the externalities of non-road transport¹³. Work progressed slowly due to fierce efforts to protect historically privileged positions: free access to highways in many countries and a lack of recognition by legislators and politicians of the excessive consequences of transport externalities ranging from climate change to damage to property and people's health mostly boiling down to costs absorbed by individuals and government or social security budgets.

Understanding of the adverse effects of inadequate charging schemes for accessing public transport infrastructures on modal split progressed considerably with the substantial evidence amassed during the last decades. The first consequences of climate change felt by the greater public were beginning to appear around the same time,

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¹⁰ Straße und Schiene - Ökologische Vor- und Nachteile der Verkehrsmittel IFEU, "CO₂-Berechnung", part 1&2: "Alle Daten und Fakten zur Berechnung des LKW- & Bahn-Footprints", Verkehrs Rundschau, no. 42&43, Springer Verlag, Munich, 2009.; Hausberger, S. et al: Handbuch Emissionsfaktoren (HBEFA) des Straßenverkehrs, TU Graz, version 2.1, Berlin, 2004.; EXTERNE KOSTEN DES VERKEHRS 2004 INFRAS und IWW Universität Karlsruhe für UIC und CER; External Costs of Road, Rail and Air Transport - a Bottom-Up Approach Fraunhofer-Institut für Systemtechnik und Innovationsforschung 1998

¹¹ Where the right to access the public road network is purchased for a given period of time (allowing unlimited kilometres to be run)

¹² Directive 1999/62/EC ("Eurovignette")

¹³ European Union Emission Trading System (2005) which internalises the GHG emissions of producing electricity used for rail traction



substantiating the claims of scientists that excessive burning of hydrocarbons will alter our planet's climate. The desire to impose costs incurred previously underwritten by public budgets onto those using them (like the case of freight forwarders and transport infrastructure costs), as well as the need to make those to pay for environmental damages caused by a given activity who demand such an activity (like the case of transport users and externalities¹⁴) resulted in gradually intensifying efforts both by the European Commission and various international bodies (like the United Nations, OECD, or G8) to address these problems.

The Eurovignette Directive (1999/62/EC) was originally drafted with all these concerns in mind; however the legislation which emerged at the end of the process could not address every issue to its entirety since that would have meant turning the world (in transport) as we knew it at the time on its head. The European Commission's 2001 Transport Whitepaper prescribed the first amendment of the Directive which was adopted in 2006 (2006/38/EC). Presently European legislators, the European parliament and the Council, are debating the second amendment unveiled by the Commission in 2008.

2. Evaluation of the current amendment of the Eurovignette directive

The presently debated Eurovignette amendment is very important as it opens up the possibility for Member States choosing to do so to internalise the first elements of transport's externalities. Nevertheless, due to the limited scope of externalities allowed to be internalised (noise, local air pollution and congestion), UIRR believes that – in line with the substantial volume of evidence amassed – the scope of changes to this legislation should be considerably broadened in the future (for details see Chapter 3). As the volume of changes needed to balance the framework conditions of transport are so substantial, and the present positions of the two European legislative bodies, the Parliament and the Council, are so far apart, the present amendment should be adopted in its current form.

2.1. The Commission's proposal of 8 August 2008 to amend Directive 1999/62/EC (Directive 2006/38/EC)

The original proposal of the European Commission to amend the Eurovignette Directive (unveiled in 2008) was applauded though some stakeholders expressed their disappointment that it did not go far enough. Environmentally friendly (non-road) freight transport modes today suffer a disadvantage from being unable to have the market recognise their advantages over road transport in their prices due to the current legislation's prohibition of internalisation of external costs of road transport. These external costs remain outside what a consignor must pay for and thus are not reflected in the prices charged by road hauliers, whom the more sustainable transport modes are compared to and must compete with.

Simultaneously, justified by the ever increasing volumes of road traffic, a large portion of public funds available for investment into transport infrastructure are diverted to road projects, preventing or postponing the enhancement of the infrastructure of other, more sustainable modes of transport that could show an environmentally friendlier alternative to road transport.

The 2008 proposal to amend the Eurovignette Directive was designed to break this vicious circle by allowing the internalisation of external costs of road transport: noise, local air pollution, congestion and indirect accident costs. It was regretfully decided from the beginning that greenhouse gas (including CO₂) emissions, oil dependency, territory fragmentation and vibration damage would be omitted from this round of amendment.

2.2. The European Parliament's vote on the Commission's amendment proposal on 10 March 2009

The European Parliament hurried to resolve on the dossier before the European elections of April 2009. The Parliament deliberations resulted in amendments that made some aspects of the proposal – like earmarking of internalisation revenues – more precise, but represented no fundamental change to the original submission.

¹⁴ Emission of greenhouse gases (GHG, such as CO₂) and other – local – pollutants (PM10, NO_x, SO_x, etc), noise, territory fragmentation, vibration (damaging underground public infrastructure networks as well as roadside property), congestion, accidents, and the rapidly increasing costs of ever increasing oil dependency (materialising in security-related expenses)



2.3. The JRC Study of 14 January 2010 and the ProgTrans Study of 2 August 2010

Deliberations on the dossier began in the Council in earnest only after the JRC study was unveiled. JRC received the mandate to prepare an evaluation of the CE Delft Handbook on the calculation of the applicable externality (sur)charges after the Council of Ministers refused to begin its deliberations without this type of additional information.

The JRC study concluded that the impact of the foreseen externality charges on final product prices would be “negligible”, while the repercussions on the users of transport would be very limited even if the total cost would be passed on by transport service providers. On the other hand a 3% increase in transport costs would result in a decrease of 13.5 billion tonne-kilometres of road transport, which translates to a meaningful reduction in externalities. Economic sectors producing relatively low value goods (agricultural produce or raw materials presently shipped by trucks) would be the most hardly pressed to alter their present logistics strategies and opt for alternate modes of transport.

VDA, the Association of the German Automotive Industry, commissioned a study by PE International and certified by DEKRA, which criticizes the environmental sustainability of (electric) rail technology vis-à-vis road transport using a set of assumed scenarios which have little to do with reality. UIRR published a position paper¹⁵ explaining the serious flaws of this study as well as its conclusions.

IRU, the International Road Union, on the other hand initiated a parallel study to the one carried out by JRC from ProgTrans¹⁶ unveiled ahead of the commencement of Council discussion of the dossier in August 2010. This study also operated with a number of laboratory scenarios difficult to imagine in real life; on top of which ProgTrans introduced the comparisons of “national hauliers’ versus foreign hauliers’ payments for the use of road infrastructure and the externalities caused in the process” as well as “total road user costs for the economy” of each Member State. This led them to conclude that Germany and France will turn into profiteers as they – attributable to their central location and extensive road networks – will likely earn more externality revenues than paid by the truckers from France and Germany in periphery countries.

UIRR believes that the ProgTrans study is completely misleading, and even outright dangerous since two malicious flaws are contained in it:

- The comparison of national hauliers’ payments with their foreign counterparts’ unnecessarily implies that some Member States would introduce an externality charging or road tolling regime that discriminates road users according to their nationality, which is not the case today, and would most certainly be ruled illegal by any European Court of Justice if attempted in the future. The other possible interpretation of this logic could be to imply that centrally located economies should continue to subsidise the transport costs, or to absorb the transport-related externalities caused by transport coming from periphery economies without compensation is equally unfair and therefore outright undefendable.
- Furthermore, the study aims to create a malicious division between Member States on the periphery of the European Union with their centrally located counterparts by comparing the externality revenues of centrally located – transit – countries with those of periphery countries. This is obvious nonsense in light of (i) both the user-pays and the polluter-pays principles of European policymaking, and (ii) the fact that transit countries must spend much more on building and operating a transport infrastructure network that serves not only the purposes of their national economies, but supports the (transit) transport needs of others; moreover these centrally located countries must endure the increased pollution and other externalities resulting from transiting traffic from periphery regions. Hence it is only logical that besides footing considerably higher transport infrastructure related expenses and enduring more transport-related externalities, centrally located Member States will collect revenues higher than those fortunate counterparts which must not cope with the discomfort of excessive transit traffic.

¹⁵ <http://uirr.com/en/media-centre/press-releases-and-position-papers/2010/mediacentre/355-position-paper-on-vda-study-on-emissions.html>

¹⁶ http://www.iru.org/index/cms-filesystem-action?file=mix-publications/PT127_Final_Report_FINAL.pdf



2.4. The Council of Ministers' vote on 15 October 2010

Attributable to the efforts of the Belgian Presidency, the Council of Ministers voted narrowly to adopt a compromise position on the amendment proposal during their meeting in Luxembourg on 15 October 2010. Fortunately it seems that the JRC Study made a greater – positive – impact on the Ministers than the counter-studies sponsored by road stakeholders coupled with fierce campaigning to maintain the present transport charging status quo. Unfortunately important elements of the original proposal were lost in the process of compromise: (i) internalisation of indirect costs of accidents¹⁷ was rejected, (ii) the solution on internalising congestion costs was substantially limited, and (iii) earmarking of internalisation revenues was removed from the text.

Despite the shortcomings of the original proposal (exclusion of GHG emissions and other important categories of externalities) and the further narrowed scope of the amendment in the process of the Council's approval process, UIRR applauds the first ever agreement of the Member States of the European Union to begin the internalisation of transport's externalities as foreseen in the 2001 Transport Whitepaper.

Recommendations:

- European legislators – the Council and the Parliament – are hereby strongly encouraged to agree on the compromise reached on 15 October in Luxembourg and enact the changes as soon as possible.
- The European Commission should point out the shortcomings pertaining to the internalisation of transport externalities in its upcoming Transport Whitepaper, and begin drafting the next amendment of the Eurovignette Directive, as well as start preparations for other legislative and policy measures that will effectively address these problems.

3. Further measures needed

Road-rail Combined Transport introduces (electric) rail into – presently – pure road based transport-chains, therefore when talking about the costs of accessing the transport infrastructure Combined Transport is simultaneously interested in the costs of using the roads (tolls) and the fees levied on trains when accessing the rail network (track access charges). Infrastructure access fees make up a considerable portion of the overall cost of transport; therefore, it greatly influences competitiveness. Combined Transport operators monitor the absolute and relative levels of these charges within the Member States of the European Union to evaluate their competitive positions.

The aim of transport taxation applied by governments, which includes infrastructure access charging, must be to recover the costs of construction, maintenance and operation of the transport infrastructure and – in line with the *polluter pays* principle – to recuperate the external costs of transport¹⁸ from those players who directly cause these externalities.

Besides infrastructure access charges, fuel excise duties, the Emission Trading System (ETS) revenues (of rail traction electricity), and various mandatory government fees form the total of “transport taxes” collected today. A confusing, non-transparent, non-comparable, inconsistent picture emerges when looking at the aims of transport taxation vis-à-vis its realisation throughout the Member States.

While the sums collected are huge, they generally fall short of the entirety of infrastructure and externality expenses incurred. Moreover, the cost coverage of taxes collected from the various transport modes is not necessarily comparable in some Member States.

¹⁷ Those costs related to an accident which are not covered by insurance compensation: i.e. congestion costs related to the accident, loss of tax revenues for the budget, transfers paid to orphans/costs of orphan care.

¹⁸ External costs of transport: emissions (CO₂ and poisonous gases, small particles/PM10), noise, vibration, indirect accident costs, congestion, landscape damage, and oil dependency



It is UIRR's position that to clarify the situation the following principles should first be agreed by political decision-makers:

- Infrastructure access charges for all modes should be determined on the basis of the *user pays* and the *polluter pays* principles in such a way as to recover (i) all public expenses related to the construction, maintenance and operations of public transport infrastructure, as well as (ii) the externalities of noise emissions, indirect accident costs, vibration-damages, congestion and territory fragmentation
- Fuel excise duties should be declared (and set at a level needed) to cover the external costs related to the burning of mineral oil-based fuels, such as GHG emissions and the costs of (increased) oil dependency (the European Emission Trading System facilitates the recovery of the same external costs in case of rail traction electricity production as well as partially in aviation); and finally
- Vehicle/rolling-stock ownership-related fees and/or taxes should be reduced to a level which covers public expenses pertaining to mandatory safety and traffic-worthiness examinations, and maintenance of the vehicle registration system (underlying services).

3.1. Reform and harmonisation of transport-taxation throughout Europe

Legal basis of road infrastructure access charging for heavy goods vehicles over 3.5 tonnes gross weight is defined in the Eurovignette Directive¹⁹. As a matter of principle with regards to scope UIRR considers, also for the sake of comparability and fairness, that all road vehicles should be subject to a distance based road toll for accessing every public road (not just highways), just as every type of train must pay a track access charge for the use of every kilometre of the rail network, navigation vessels must pay for port usage or aircraft for the use of airport facilities.

Secondly, it must be sadly observed that Austria, the Czech Republic and Slovakia are the only Member States of the European Union, aside non-EU member Switzerland, which levy a distance-based electronic road toll on vehicles heavier than 3.5 tonnes today. The fourth Member State that operates a distance based electronic road tolling system, Germany, has only 13 months until the 2012 deadline²⁰ contained in the Eurovignette Directive to expand usage based charging (the "Maut" system) to all vehicles heavier than 3.5 tonnes (instead of the currently higher limit of 12t).

Distance based concessionary charging of all vehicles (including passenger cars) is to be found in six Member States: France, Greece, Italy, Portugal, Slovenia and Spain, while accession country Croatia uses this regime as well. All other Member States – far from being in line with the European principle – either entirely refrain from charging road tolls²¹, or employ a vignette type²² (time-based) charging scheme.

Overall, one may conclude that the charges presently levied for accessing the public road infrastructure in the European Union typically do not enable governments to recover their costs involved with constructing, maintaining and operating public roads, as well as to compensate for the external costs not covered by fuel excise taxes such as those caused by noise emissions, indirect accident costs, vibration-damages, congestion and landscape damage.

¹⁹ EC Directive 2006/38

²⁰ Article 1 Paragraph 2 b) subparagraph 2 (b) of Directive 2006/38/EC: "Tolls and/or user charges shall be applied to all vehicles from 2012."

²¹ United Kingdom and the Netherlands are the two most prominent examples for levying no tolls on any road user whatsoever.

²² Vignette type, or time-based road tolling schemes require that the operator of the road vehicle purchase a right to access the infrastructure for a certain time period (one year, one month, or less) during which (s)he is entitled to unlimited access to the (charged) road infrastructure network of the given country; this scheme encourages road vehicle owners to make use of this possibility as much as they can, thus for instance they would avoid using sustainable modes charged on a distance basis like railways, when part of Combined Transport.



3.1.1. Excise taxes on mineral oil derived fuels

Amendment of European Directive 2003/96/EC²³ whereby the excise duties levied on – among others – oil derived fuels would be labelled in accordance with the spirit of Adam Smith's definition as contained in his book, the Wealth of nations, whereby fuel excise taxes are declared to be a kind-of carbon tax collected from users (i) to compensate for the externalities (climate change, increasing security costs of excessive oil dependency) caused by the burning of mineral-oil derived fuels, aimed also (ii) to discourage the excessive consumption of such fuels and limiting it to where it is absolutely necessary and may not otherwise be replaced. This way the excise revenues of public budgets could be recognised and used to cover the increasing costs of health care systems, (natural) disaster relief services as well as security operations all related to climate change and the excessive use of mineral oil.

UIRR proposes to internalise externalities related to the burning of mineral oil derived fuels (climate change) and the costs of increased mineral oil dependency through the relabeling of the presently applied fuel excise taxes.

3.1.2. Government fees: security permits, vehicle registration, traffic-worthiness testing etc.

A very important, yet difficult to define area of transport-related taxation, which is perceived by stakeholders of transport to contain several unfair elements are the various legally prescribed fees that are payable by every transport undertaking: fees for security as well as permits to do business, registration of vehicles, traffic-worthiness testing, licenses, emission checks, etc.

Claims by stakeholders that these fees many times exceed the actual costs of providing the services behind them, or that the underlying services are not organised as efficiently as possible can probably be accepted true without a scientific study. Inefficiencies and excessive charging for these prerequisites to doing business in transport not only acts as a barrier to entry, but forms a substantial cost-ballast to be borne by the sector.

It is UIRR's position that Member States should agree to (i) harmonise the categories of these transport-related mandatory fees, (ii) implement a program of increasing the efficiency of underlying services and (iii) accept the principle that these fees should not exceed the costs directly related to the services provided in return by government agencies and other public authorities.

3.2. The next amendment of the Eurovignette Directive

Legal basis for the presently applied track access charging schemes is contained in Directive 2001/14/EC, which stipulates that charging should apply to the entire rail network. Moreover, the existing rail legislation already permits the internalisation of external costs in the form of surcharges for infrastructure scarcity (congestion), as well as other unpaid environmental, infrastructure (vibration) and indirect accident costs²⁴, while the introduction of noise-related track access (sur)charges is presently under deliberation.

The internalisation of GHG emissions as proposed in 3.1.1 of this paper would redirect a substantial portion of funds that are presently used to finance the operation and maintenance of the public road infrastructure. Consequently a new road tolling regime, comparable to rail access charging should be devised to raise the necessary funds from road users.

A 40t truck uses about four times as much fuel and hence pays only four times as much excise duties per vehicle kilometre as an automobile. At the same time the amount of damage a truck with 10,5-11 tonne axles causes to the roads is multiple times that of a passenger car²⁵, which clearly proves the unfair nature of aiming to recover road maintenance and operations costs in the form of fuel excise taxes (this way cars heavily subsidise the road usage of trucks today).

²³ Restructuring the Community framework for the taxation of energy products and electricity

²⁴ Those costs related to an accident which are not covered by insurance compensation: i.e. congestion costs related to the accident, loss of tax revenues for the budget, transfers paid to orphans/costs of orphan care.

²⁵ The damage caused by heavy goods vehicles may be up to the fourth factor of automobiles: Auswirkungen von neuen Fahrzeugkonzepten auf die Infrastruktur des Bundesfernstraßennetzes, by Bundesanstalt für Straßenwesen, Nov 2006



In the spirit of intermodal fairness, the drafting of the next amendment of the Eurovignette Directive should be commenced without hesitation to establish (i) uniform rules of the structure of road tolling, (ii) homogeneous rules on calculating the toll levels to be applied by vehicle and road category, (iii) a requirement that every Member State prepares a multi-year transition plan to this new, uniform way of tolling, and (iv) rules for internalising the categories of externalities which were left out during the present amendment of the Directive.

3.2.1. The structure of road tolling in Europe

The distance-based track access charging scheme described in Directive 2001/14/EC stipulates that charging should apply to the entire rail network and it should be based on the user-pays principle. This precedent should be endorsed in the new amendment of the Eurovignette Directive whereby it should mandate a shift to distance based electronic road tolling for every commercial vehicle heavier than 3.5 tons. This would not only create a fair charging scheme by calculating tolls on a distance basis, but create the framework for implementing the internalisation already allowed in the present amendment. Time-based (or vignette-type) road tolling is not only unfair to the casual user, but also explicitly encourages the road vehicle owner to use his vehicle as much as he can to minimise the pro-rata infrastructure charge on it. The vignette scheme outright punishes those progressively thinking road hauliers, who wish to use Combined Transport since the tonne-kilometre performance of a truck when used only for the position road legs can only be substantially lower as compared to the lorries used in long-distance transport due to the lower speeds achievable in the urban distribution-type traffic.

3.2.2. Rules on calculating the tolls

Remaining on the grounds of the user based principle and its embodiment as contained in Directive 2001/14/EC, applicable road toll levels should be calculated in a way to raise sufficient revenues to cover the costs of operating, maintaining and (re)building the public road network, including all publicly incurred costs of signalling, policing/traffic management, lighting as well as technical maintenance.

3.2.3. Transition to the new way of charging

Recognising that the present status quo of charging and financing of transport infrastructure, including the multi-annual rail infrastructure operations agreements, has evolved over several decades, change also can not come from one day to another. Hence the legislator should require that Member States prepare a transition plan extending to every aspect of transport taxation, charging and road tolling as well as subsidies extended to various modes of transport, which can then be monitored through regular status reports on their implementation.

3.2.4. Internalisation of remaining externalities and fine-tuning of internalisation rules

Considering that internalisation of some external cost categories (noise, local air pollution and congestion) is contained in the present amendment of the Eurovignette Directive, and that the most important externality, GHG emissions and oil dependency would be internalised through the relabeling of fuel excise duties as suggested in 3.1.1, the following external cost categories remain to be internalised into road tolls: indirect accident costs, vibration damages and territory fragmentation.

- *Indirect accident costs* are by far the most

The European public is cunningly misled to think of "only" in terms of "loss of life" as the indicator of transport safety, but not consider the number of accidents and those injured. According to UNECE's Statistics of Road Traffic Accidents (published in 2007)²⁶ altogether 1 327 815 road accidents occurred in 2004 within the territory of the 27 countries comprising the European Union.

This horrific number of accidents caused the death of 46 155 persons (equal to the population of a mid-size European town), while left 1 751 192 persons injured (twice the population of Brussels).

While road accident death figures were reduced to

²⁶ http://www.unece.org/trans/main/wp6/pdfdocs/RAS_2007.pdf



“costly” of the three to society: firstly the working time lost when standing in accident related traffic jams, secondly through taxes and human contribution lost following a death or permanent injury.

- *Vibration damage* materialises when heavy commercial vehicle-related vibration cracks utility pipes constructed below roads, or in damage to roadside buildings.
- *Territory fragmentation* relates to potential biodiversity loss due to relatively wide, impenetrable highways, as well as railway lines which divide the habitat of many species disabling interaction needed for survival.

under 40 000 (!) by 2009, the total number of accidents did not change.

The number and outcome of accidents on other modes of transport combined was about 40 times less²⁷, which if weighted by modal share means that road transport results in accidents 20 times more often per 1000 tonne-kilometres than any other mode.

Even without quantifying this ‘feature’ of road transport in the form of indirect accident costs, being confronted with these facts it is an obvious conclusion that we should aim to reduce the modal share of road transport to the unavoidably lowest level without which we can not live (while aiming at the same time to introduce measures that reduce its accident-probability such as lowering maximum allowed speeds as well as stricter traffic rule enforcement).

Moreover, since by the time this next amendment of the Eurovignette Directive can be drafted additional evidence will be available to evaluate the effectiveness of the internalisation measures presently under consideration in relation to noise, local air pollution and congestion, a fine-tuning of the internalisation rules of these externality categories can be also considered.

UIRR hereby advocates that the European Commission begins drafting the next amendment of the Eurovignette Directive along the principle notions of: (i) distance based electronic road toll collection should be made mandatory throughout Europe, (ii) the rules to calculating applicable road toll levels should be described in sufficient detail, (iii) Member States should be required to prepare a transition-plan and submit regular status reports, and (iv) rules should be devised for the internalisation of the remaining externalities.

Recommendations:

- The most important transport externality, GHG emissions, together with the costs of oil dependency should be internalised through a Europe-wide agreement on the relabeling of fuel excise taxes for this purpose.
- The reform and harmonisation of transport taxation in Europe should extend to a review of the various mandatory government fees and the underlying services.
- The next amendment of the Eurovignette Directive should make distance based electronic charging for road use mandatory and include rules on calculating toll levels, the transition to this new system and on the internalisation of the remaining externality categories.

4. The process of implementation

- 4.1. Adopt the currently proposed amendment of the Eurovignette Directive in second reading by the end of 2010

Despite the imperfections of the presently debated amendment of the Eurovignette Directive it should nevertheless be applauded for upholding the principle of internalisation of external costs of road transport. Hence, with all its shortcomings, UIRR encourages that the European Parliament accepts it in a second reading consideration, thereby avoiding any delays that may stem from a potentially lengthy conciliation procedure for the sake of potentially minor progress.

²⁷ The 7023 train accidents reported in 2003 resulted in 1464 fatalities and 1648 injuries. Source: Eurostat: Statistics in focus 34/2007



4.2. Require Member States to implement temporary relief measures

Recognising that the present regulatory framework one-sidedly favours the road sector over rail (widespread application of time-based – vignette-type – road tolling, or an outright lack of road tolling in some Member States, and a lack of internalisation of road externalities) the European Commission should facilitate the design of a formalised temporary relief mechanism to aid primarily the rail sector. An algorithm should be used to calculate state subsidies to be extended primarily to rail infrastructure managers, which is proportionate to the pro-rata support enjoyed by the road sector. This algorithm could also serve as an indicator for Member States on their progress in reducing overall subsidies to transport, as well as ensure that payments to both sectors are reduced proportionately thereby granting a relief to public budgets otherwise pressured by extensive public debt and the costs of caring for an aging society.

UIRR hereby advocates that the European legislator should define a formula by which each Member State can determine the fair charges for accessing the rail infrastructure when comparing to the road tolls applied in the country on a tonne-kilometre basis so as to achieve equal pro-rata infrastructure access charges between the modes (or a lower track access charge to offer a temporary advantage for the sustainable railway mode to regain its market share). The budget financing of the rail infrastructure, when calculated using this formula, should be pledged through a long-term (multi-year) contract whereby the State enables a planning horizon for the infrastructure managers that conforms to the lifespan of rail technology. The implementation of a usage based electronic road tolling regime, with an element of internalisation, should on the other hand guarantee that the amount of equalising budget transfers to rail infrastructure managers could be gradually reduced.

4.3. Preparations for additional legislative action

UIRR believes that legislative action should be taken along the lines described in this paper to correct the anomalies caused by uneven taxation and charging regimes applied presently in European freight transport. These actions should be included in the new Transport Whitepaper of the European Commission together with the mechanism for a transparent relief mechanism aimed at compensating transport modes disadvantaged by the present regulative status quo.

Recommendations:

- The European Parliament is encouraged to adopt the amendment of the Eurovignette Directive in its second reading consideration (by the end of 2010).
- A formula should be defined, which would allow for the reverse calculation of applicable track access charges using the effective road tolls on a per tonne-kilometre basis by every Member State. Member States should be required to provide a level of financing to their rail infrastructure managers which would enable the application of comparable (or lower) track access charges to road tolls payable by trucks per tonne-kilometre through a relief mechanism aimed toward primarily the rail sector employing an algorithm.
- The comprehensive legislative actions – prescribed in this paper – needed to correct the present imbalanced regulatory status quo in the transport should be fully included in the new Transport Whitepaper of the European Commission, and the European Council should aim to reach a consensus over this new Transport Whitepaper.
- The European Commission should begin drafting the necessary legislative amendments as soon as possible.

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