

Road charges for private vehicles in the EU

SUMMARY

Road charges are fees for the use of a particular road network or section of road. Since the 1990s, the focus of European transport policy has shifted from the application of road pricing purely as a means to generate revenue towards the use of charges as an instrument against pollution and congestion. Charging for road infrastructure is an option to implement basic principles of EU policy such as the 'user-pays principle' or the 'polluter-pays principle'. It can serve different functions such as financing, managing traffic flow or making all costs perceptible so as to influence the behaviour of road users.

As the transport of goods is linked with the functioning of the Single Market, the charging of heavy goods vehicles is regulated at European level. In contrast, there is no regulation at European level on the road charging of private vehicles, though Member States establishing such schemes are obliged to apply the basic principles of the Treaties, in particular the principles of proportionality and of non-discrimination on grounds of nationality.

As a consequence of the regulation at national level, many different charging schemes are applied in the EU. These vary, principally according to the way they are levied: distance-based schemes levied by means of tolls, or time-based schemes, levied using vignettes. All schemes are associated with considerable levying costs. Technological developments such as electronic charging can offer opportunities to reduce these costs. However, lack of interoperability between the various systems generates additional costs and hindrances for European mobility.



In this briefing:

- Reasons for road charging
- EU policy on road charging
- Charging schemes for private vehicles in the EU
- Interoperability
- Debate in the European Parliament
- Main references

Glossary

Private vehicles: passenger cars, motor cycles and other motor vehicles, with a total permissible mass of no more than 3.5 tonnes, used predominantly for private purposes (the definition given by the Commission in COM(2012) 199 final).

Toll: distance-based or area-based road charge, typically levied at physical road barriers such as a row of tollbooths, known as a toll plaza; tolls might vary according to vehicle type (e.g. environmental performance) or time (e.g. time of day).

Vignette: time-based charge – road users have to buy a vignette (i.e. a sticker or document to be placed on the vehicle's windscreen) that allows the vehicle to use the infrastructure for a given period of time.

Reasons for road charging

An infrastructure network is the backbone of any transport system. One of the main tasks of transport policy is to take care of road infrastructure as a prerequisite for road transport. Construction of new roads and maintenance of the existing road infrastructure requires huge sums of capital. [Funding](#) has traditionally come from the public sector, although in times of budgetary tightness [private sources](#) of funding are also discussed and often implemented. As far back as in medieval times, road tolls – meaning a special fee charged to travellers or merchants for permission to use special roads, bridges or waterways – were levied to gain revenue. Nowadays, road charges can have three main functions.

Financing

Road-charging revenues can be used to cover the cost of infrastructure, thereby switching the source of financing from the taxpayer to the road user. Appropriate infrastructure charging is seen as crucial for mobilising [private capital](#) for infrastructure construction. Efficient infrastructure pricing thus facilitates the introduction of public-private partnerships and relieves demand on tight public budgets.

Traffic management

Traffic congestion is considered to arise from the mispricing of road space at specific places and times, and occurs in particular in urban transport.¹ Variable tolls, for instance higher prices under congested conditions and lower prices at less congested times and locations, are intended to reduce peak-period traffic volumes to optimal levels.

Making all costs perceptible

Since the 1990s – with the growing importance of environmental policies in the EU – the focus of transport policy has concentrated more and more on reducing the [negative external effects](#) of transport, such as environmental pollution or noise. Encouraging the choice of [modes](#) that entail the least negative effects is a strategic objective of European transport policy, using market-based instruments such as road-charging schemes to influence prices. The aim is to reflect environmental impact and resource scarcity more clearly so that road users can respond appropriately.

The internalisation of external costs

Without policy intervention the modes and the extent of transport are determined by the private costs that have to be paid directly by the transport user. For instance, the private costs caused by the use of a vehicle are those for fuel, for wear and tear of the vehicle or for service and repair.

However, various costs connected to vehicle use are not charged directly to users. Transport activities often have negative side effects and hidden costs caused by accidents, congestion or environmental problems. These external costs are most notably damage to health or the environment and are generally borne by society or later generations.²

The sum of private and external costs constitutes the social cost of transport activities and represents the total consumption of resources caused by using a vehicle. Transport policy aims to frame measures to minimise the mismatch between private and social costs. This is done by through the [internalisation](#) of external costs, meaning that the price to be paid for a transport activity also reflects the external costs. Well-known economic instruments used to internalise external costs are taxation, user charges and emissions trading. The social costs, including infrastructure and external costs, should ideally be paid by the polluter, in accordance with the polluter-pays principle. This would make transport more environmentally [sustainable](#) and economically efficient.

Calculating external costs

To charge any external costs to the polluter, a quantitative estimation of these costs is necessary. Basic requirements are the methodology and the data to calculate the external costs, so that any road charges can be aligned with the actual external costs. In its approval of the revised Eurovignette Directive in 2006, the European Parliament insisted on the [obligation](#) that the Commission present 'a generally applicable, transparent and comprehensible model for the assessment of all external costs to serve as the basis for future calculations of infrastructure charges'. The Commission [published](#) a first handbook in 2008 on estimating external costs. An [update](#) of the handbook on the external costs of transport was produced in 2014 to assist with Member States' calculations of road user charges.

EU policy on road charging

Since the 1990s, the debate in Europe on transport pricing has intensified. 'Getting prices right', as expressed in the [2011 White Paper](#) on Transport, and the internalisation of external costs is viewed as the most effective way to encourage sustainable and efficient behaviour, and provide incentives for finding transport solutions. The White Paper outlined the Commission's intention to propose mandatory measures to achieve the internalisation of the main external costs of transport caused by noise, local pollution and congestion by 2020. Besides the substantive questions raised by these charges, such as their level or base, the question

Polluter-pays principle (PPP)

The PPP is a basic economic idea whereby the person who causes external costs, in particular environmental costs, should pay for them. As market forces fail to internalise external costs, e.g. to integrate the external costs in the price formation, a state authority will have to intervene. Article 191(2) of the Treaty on the Functioning of the European Union defines the PPP as a basic principle in the EU's environmental policy.

User-pays principle (UPP)

The UPP, a variation of the polluter-pays principle, calls upon the user of a resource to bear the cost of running down capital. This principle is based on the idea that the most efficient allocation of resources occurs when consumers pay the full cost of the goods they consume. Those who do not use a good or a service – for instance infrastructure – should not be obliged to pay for it. The European Commission outlined the UPP as a basic principle in transport policy in the 1998 [White Paper](#), Fair Payment for Infrastructure Use: A phased approach to a common infrastructure charging framework in the EU.

of the technical [methods](#) for levying any tolls or fees is of particular significance for European transport policy and the single European transport area.

According to the subsidiarity principle, the charging of private vehicles falls within the competence of Member States and therefore no secondary rules on this issue exist at EU level. In the case of private vehicles it is up to Member States to decide on the introduction and precise application of road-charging schemes. Consequently, there are many differences between Member States regarding the level and form of charges on private vehicles for infrastructure. However, any road-charging scheme put in place by a Member State must uphold the fundamental principles of the EU Treaties, in particular the principle of non-discrimination on the grounds of nationality, as prohibited by Article 18 [TFEU](#), and the principle of [proportionality](#). This principle requires that a measure should constitute a proportionate means of achieving an objective of general interest, i.e. the objective pursued could not be achieved by a less onerous measure.

EU policy on road charging of heavy goods vehicles

The legislative conditions for the road charging of heavy goods vehicles (HGVs) are different from those for private vehicles, as the movements of HGVs are directly linked to the EU's core principles of free trade and the free movement of goods. In 1999 the Directive on the charging of heavy goods vehicles for the use of certain infrastructure – known as the [Eurovignette Directive](#) – laid the foundations for the internalisation of the costs generated by HGVs.³ The Directive allowed – but did not oblige – Member States to set charges for HGVs (with a maximum permissible laden weight of over 12 tonnes) in the form of distance-related tolls or time-based charges (vignettes). Initially the Directive set out the main requirements that a road-charging scheme had to observe, so that it did not result in any discrimination, and so that the charges were set at a level that did not exceed the recovery of the costs strictly necessary to maintain and replace the road infrastructure.

The Directive was amended in 2006 to [extend its scope](#) to vehicles with a maximum permissible laden weight of between 3.5 and 12 tonnes (this requirement became mandatory from 2012) and to allow greater freedom to vary toll rates according to environmental or traffic management objectives; the 2011 amending Directive allowed the inclusion of external costs such as air and noise pollution in the calculation of charges. Thus the 'user pays' regime was extended to encompass the polluter-pays principle.

Charging schemes for private vehicles in the EU

The majority of EU Member States deploy road charging for HGVs and most of these countries also operate charging schemes for private vehicles, based on either time, distance or area. Five Member States do not apply any road charges: Cyprus, Estonia, Finland, Luxembourg and Malta.

Time-based charges – vignettes

Vignettes allow the use of a particular road network, for instance access to national highway networks, for a specific period of time. The vignette systems of the Member States vary in their pricing, operation and enforcement.

Advantages: Vignette systems can be introduced relatively fast and at low cost. Traffic deflection effects are unlikely.

Disadvantages: Time-based charges have no real correlation with actual road use in terms of kilometres driven, so they are little suited for internalisation of external costs or as an incentive for more sustainable behaviour. In addition, even when the price of vignettes is differentiated to reflect certain vehicle environmental performance criteria,

these price differentials are so small in relation to the cost price of a vehicle that they will not be a relevant factor influencing the buying decision.

A study for the Commission [found](#) that vignette systems may hinder the free flow of traffic through the way they are designed. The study identified key shortcomings, such as disproportionate pricing (short-term prices being relatively higher than longer-term e.g. annual prices), a lack of vignettes suitable for transit or short-term users, and some enforcement practices apparently targeting foreign users.

Short-term vignettes are more likely to be bought by foreign road users than by residents. Disproportionate pricing is viewed as the most serious shortcoming of vignette systems.

Table 1: Price of vignettes for private vehicles in 2016

	week	month	year
Austria	€8.80 (10 days)	€25.70 (2 months)	€85.70
Bulgaria	€5	€13	€34
Czech Republic	€12 (10 days)	€17	€57
(e-vignette) Hungary	HUF 2 975 (€11.27*)	HUF 4 780 (€18.11*)	HUF 42 980 (€162.80*)
(e-vignette) Romania	€3	€7 (€13 for 90 days)	€28
Slovakia	€10 (10 days)	€14	€50
Slovenia	€15	€30	€110

Source: data from [austria.info](#), [dalnicni-znamky.com](#), [sfdi.cz](#), [virpay.hu](#), [tolls.eu](#) and [dars.si](#)

* variable depending on the daily exchange rate

In 2012 the Commission published a [communication](#) clarifying its understanding of how the principles of proportionality and of non-discrimination on the grounds of nationality should be applied to the road charging of private vehicles. It set the following criteria for vignette systems:

- price proportionality;
- products suited for occasional users (a weekly or shorter period vignette should be offered in addition to annual and monthly vignettes);
- proper access to information (including information in all relevant languages);
- appropriate enforcement practice (residents and non-residents should be treated equally);
- a wide range of ways to purchase a vignette, especially for non-resident, occasional road users.

The German *PKW-Maut*

In June 2015 the German legislator approved a bill providing for an infrastructure charge for passenger cars, the [PKW-Maut](#), to be levied in the form of an electronic vignette linked to the vehicle registration number. Owners of vehicles registered in Germany would have to pay the annual charge to use federal motorways and federal highways. The amount due would be deductible from the owner's annual motor vehicle

tax. Drivers of vehicles not registered in Germany would have to pay for the use of federal motorways and federal highways, choosing a vignette valid for either 10 days, two months or one year.

The Commission has expressed doubts that this bill would comply with the fundamental Treaty principle of non-discrimination and has launched an [infringement procedure](#). The Commission's main concern is the fact that Germans would not have to pay the infrastructure charge because the exact same sum would be deductible from the vehicle tax. In addition, the Commission considers the price of the short-term vignettes to be disproportionately high. Germany has delayed implementation of the *PKW-Maut* until the legal conflict is resolved.

Distance- or area-based charges – passenger car tolls

Most EU Member States have some kind of toll on specific road sections like bridges or tunnels, some of these being cross-border like the Oresund Bridge between Sweden and Denmark or the Mont Blanc tunnel between France and Italy. Some Member States have area-based congestion charges for access to or through city centres, e.g. London, UK.

Inter-urban traffic tolls are based on distance and levied for special chargeable events like the crossing of a particular point of a road network.

Table 2: Distance-based charges for private vehicles

Croatia	Tolls apply on motorways and also at some local points such as bridges, tunnels or viaducts. Electronic payment using a transponder is possible.
France	Tolls are charged on the entire network of motorways with exceptions, including some urban motorways or feeders (operated by several toll operators). Charges depend on distance and on vehicle-type. Payment is possible using an automatic system called <i>Liber-t</i> using an in-car electronic receiver.
Greece	Tolls are levied on several sections of motorway, tunnels and bridges.
Ireland	Charges apply on several sections of motorway, tunnels and bridges.
Italy	Tolls exist on several motorway sections (operated by different companies); charges depend mostly on the distance travelled but on some sections a flat rate is charged. Payment can be made using the automatic 'telepass' system, using an in-car electronic receiver.
Poland	There are tolls on several sections of the main motorways (A1, A2, A4).
Portugal	Charges apply to most motorways depending on the distance driven and the type of vehicle, and also to some bridges. On some motorway sections tolls have to be paid electronically.
Spain	On many motorways there is a choice between manual or automatic toll payment.
UK	In addition to the congestion charge in London there are tolls for one section of motorway and several tunnels/bridges.

Sources: hac.hr, autoroutes.fr, dalnici-znamky.com, tii.ie, autostrade.it, viatoll.pl, portugal tolls.com, autopistas.com, gov.uk

Advantages: [Tolls](#) are distance-based charges and therefore directly linked to infrastructure use. They are, in principal, non-discriminatory regarding nationality. They can also be differentiated to reflect the environmental performance of the vehicle or its contribution to infrastructure wear and tear.

Disadvantages: The levying of tolls at barrier points can cause congestion on toll plazas. Electronic tolling can require on-board units and expensive roadside equipment. Toll systems therefore entail additional costs for the construction, maintenance and

operation of toll collection facilities. As regards effects on traffic, charging may lead to a shift of traffic towards non-toll roads.

Interoperability

Digitalisation and connectivity allow tolling without the user having to stop at toll barriers. Electronic tolls are levied by electronic systems that charge passing vehicles at a control point or across the infrastructure network via electronic signals. As electronic systems have different technologies and standards in different Member States they hinder the free flow of cross-border traffic in the EU.

Therefore [Directive 2004/52/EC](#) established the framework for a European Electronic Toll Service (EETS), providing a base for interoperability of electronic tolls throughout the EU. The EETS should have been operational for heavy goods vehicles by October 2012 and for other vehicles by October 2014.

As the Commission stated in a [communication](#) in 2012, 'the progress achieved in the advancement of EETS deployment is disappointing'. In 2013 the [European Parliament](#) asked the Commission to consider appropriate legislative measures in the field of interoperability as soon as possible. In 2015 the Commission [announced](#) an evaluation of EETS legislation.

A [study](#) for the Commission published in October 2015 analysed why interoperability between electronic tolling schemes had not yet been achieved at European level. Referring to the different technologies on the existing tolling market, the study outlined the various criteria and contexts that were relevant to the decision on which technology to apply. The findings of the Regional European Electronic Tolling Systems ([REETS](#)) project, which aimed to kick-start the EETS in a cross-border regional context, showed that the business dimension was of essential importance for developing the EETS Directive.

Debate in the European Parliament

European transport [policy strategy](#) for the decade until 2020 has the stated aim of securing the internalisation of external costs for all modes of transport – as part of the objective of getting prices right. This concept has been strongly supported by the European Parliament as an appropriate instrument to promote the choice of sustainable transport. In its [resolution](#) on the 2011 White Paper on Transport, the EP called on the Commission to submit proposals for the internalisation of the external costs of all modes of freight and passenger transport. In 2015, in its [mid-term review](#) of the EU's transport strategy, the European Parliament asked the Commission to evaluate the different car road-charging schemes and their compatibility with the Treaties. It also called for initiatives to ensure the interoperability of electronic road toll systems.

In December 2014 the EP's Committee on Transport and Tourism organised a [hearing](#) with stakeholders to discuss the question of harmonising the Member States' road charging systems and the role of road charges for financing infrastructure. The debate revealed differences in the existing approaches. Committee Members underlined the importance of sustainable transport and the need to enable the free undisturbed movement of EU citizens. They emphasised that, all too often, citizens in cross-border traffic have to deal with different systems and the associated costs, making the alignment of technical systems desirable.

According to the International Road Transport Union ([IRU](#)), the organisation representing the interests of bus, coach, taxi and truck operators, the charges on road users already tend to be higher than the investment in road infrastructure. IRU pointed out that a cost-benefit analysis should be applied to each question of internalisation of external costs. The International Automobile Federation ([FIA](#)), the umbrella organisation for drivers, underlined that only 50% of revenue from cars is reinvested in infrastructure. In its view, instead of increasing prices for road use, transport policy should offer alternative solutions for solving problems like emissions and congestion. [Transport and Environment](#), the Brussels-based federation of 45 environmental organisations, noted that current user charges do not cover the social costs of transport, nor do they provide incentives to reduce these costs.

The Commission declared in its 2016 [work programme](#) that it will promote 'the use of non-discriminatory road-charging schemes based on the polluter-pays and user-pays principles and efforts to create a single European transport area, allowing a more efficient use of the existing road infrastructure'. In April 2016, the Commission organised a road [transport conference](#) with road pricing as a main topic on the agenda.

Main references

Communication from the Commission on the application of national road infrastructure charges levied on light private vehicles, [COM\(2012\) 199 final](#).

Evaluation of the implementation and effects of EU infrastructure charging policy since 1995, Report for the European Commission: DG Move, Ricardo-AEA, Issue No 3, 21 January 2014.

Endnotes

¹ This idea of road pricing was outlined in a paper by Nobel laureate William Vickrey in 1948. See: 'Do economists reach a conclusion on road pricing? [The intellectual history of an idea](#)', Robin Lindsey, *Econ Journal Watch*, Vol. 3, No 2, May 2006, pp. 292 - 379, p. 304.

² The economic concept of external costs was introduced by Arthur Pigou, *The economics of welfare*, Macmillan, London, 1920.

³ The European directive regulating road charges for heavy goods vehicles and allowing time-based as well as distance-related schemes is known as the Eurovignette Directive – but [Eurovignette](#) is also the name of a time-based road user charging scheme that is operated jointly by Denmark, Luxembourg, the Netherlands and Sweden (and until March 2016 by Belgium too). The physical sticker, the vignette, was replaced at the beginning of 2008 by an electronic system.

Disclaimer and Copyright

The content of this document is the sole responsibility of the author and any opinions expressed therein do not necessarily represent the official position of the European Parliament. It is addressed to the Members and staff of the EP for their parliamentary work. Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.

© European Union, 2016.

Photo credits: © kamasigns / Fotolia.

eprs@ep.europa.eu

<http://www.eprs.ep.parl.union.eu> (intranet)

<http://www.europarl.europa.eu/thinktank> (internet)

<http://epthinktank.eu> (blog)

