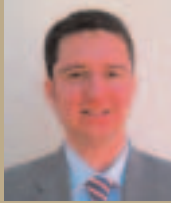


Paper

Paper

Authors



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Switzerland's toll system, introduced in 2001, enjoyed a successful introduction, thanks to a wide range of payment options and an extensive Europe-wide information campaign



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Road pricing and freight

European and national strategies

Europe of by no means united when it comes to road pricing. We look at some UK and European road pricing initiatives, and how a few countries seem determined to go their own way.

The key objective of the EC is: 'Gradually to break the link between the growth of transport and economic growth, principally in three ways: shift the balance of transport modes; eliminate bottlenecks; place users at the heart of transport policy.'

In the arena of road pricing, the Commission has had to address the incompatibility of the EU directive 1999/62/ECC, which set minimum fixed road tax rates for HGVs and stated that the only fiscal instrument for travel on EU motorways was the Eurovignette permit. In this area, the Commission is looking at all infrastructures, charging all modes as a way to promote goals and make a transparent framework for external costs of transport. The use of charging to achieve policy goals is a key part of the 2001 White Paper on Transport.

The key message is to reflect the cost of different pollution levels, travelling times and damage costs as well as infrastructure costs – to provide incentives to reduce congestion, pollution, and 'rebalance the modal split'. The EC wants explicitly to distort the marketplace. There are a growing number of road stakeholders expressing doubt. The UK Freight Transport Association stated that this: 'only reinforce[s] industry suspicion that

the true motivator of Commission policy is not a fairer system of calculating costs of transport, but a tool to effect modal shift by singling out the road sector for new charges.'

In July 2003, DGTREN suggested an array of proposals for an EU-wide road freight pricing plan. The transport commissioner Loyola de Palacio said that the plan responds to the 'regulatory mosaic' in which such countries as Germany, UK and Austria have already decided to introduce more direct road pricing schemes. One might suggest that the European Commission, having failed to take the lead, is post facto filling the cracks.

Overview of nation states across EU

The BESTUFS project identified key countries with ongoing activity and also countries where the issue is effectively dead. It also identified a view that the issue is of low importance today but that it is widely expected to become ever more pressing in the near future – see Figure 1.

BESTUFS surveyed the number and status of projects, finding that whilst demand management projects were in the majority, revenue-led projects were in the majority in terms of implementation – see Figure 2.

Importance of road pricing and road freight, today and future

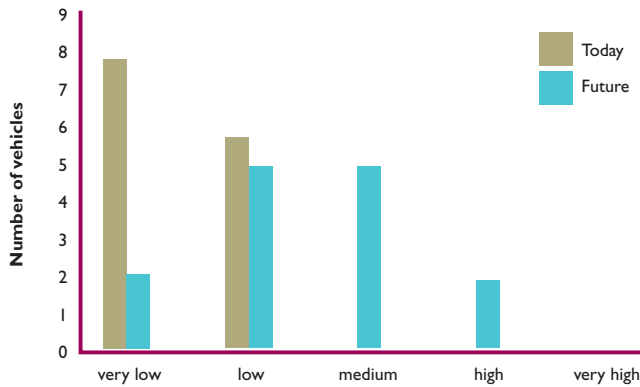


Figure 1

Whilst Spain, France, Austria, Finland, Denmark and Greece all have low political interest in urban road pricing, others are keen. Belgium has recently mooted cordon road pricing for Brussels in 2005. The issue is controversial in the Netherlands, and in practice in the UK, Norway, Italy and Switzerland. Germany, despite the schadenfreude of an aborted implementation, is close to operational. Sweden almost introduced road pricing in the 1990s, but fell foul of Byzantine industrial, trade union and party politics.

UK – urban and national strategies

The UK has a great deal of activity in this field, in a localised fashion designed to limit the political impact on the ruling party. The Transport Act of 2000 and the Greater London Act devolved authority and responsibility to local government for congestion charging, directing the revenues to infrastructure and modal shift, with ring fencing; all the revenues collected are reinvested in transport itself. Until 2003, road-user charging was theoretical. Now the situation is different, following London's successful experience with congestion charging (LCC). This improved journey times inside the charged zone, and cut congestion levels up to 30%. According to a survey carried out in February 2004 on 500 companies, business has been favourable to the charging scheme, with 72% reported it as a success. The acceptance of LCC is confirmed, as only 2% of companies would consider relocating outside the zone.

However, there are other shops and businesses in London that argue that they have been affected by the charge. The London Chamber of Commerce states that 75% of its members have experienced a downturn in their business since 2002, and half blame LCC. The first six months since February 2003 saw business at the John Lewis store on Oxford Street fall 7.3%.

Congestion charging success has made the political climate change; now everybody seems to have contributed to such a successful measure. Alistair Darling announced in Parliament in July 2003: 'Road-user charging has to be considered as part of sensible management of our roads.' Just before the mayoral elections, Ken Livingstone proposed the Western Extension of the LCC to include most of Kensington & Chelsea and Westminster, excluding most of Park Lane and the Westway.

Urban road pricing: the case of UK nationwide

Whilst unproven, localising congestion charging was politically expedient for the UK Government; it prevented national dissent over schemes. That the first major scheme to go live has been implemented by a political maverick had various political advantages. The Labour Party could distance itself from the schemes, whilst at the same time promoting them through policy and research.

The London case has awakened the aspirations of several cities to put a curb on their high and growing congestion levels. Parallel to that, we have a suggested Lorry Road-User Charging (LRUC) scheme managed by the Treasury, and a wider national congestion charging scheme, largely championed by the Commission for Integrated Transport (CfIT).

According to the Department for Transport, 35 local authorities stated in their Local Transport Plans in 2000 that they were interested in adopting a congestion charging scheme. Fifteen cities have advanced towards implementation. Within this smaller group there have been strong differences in the pace and style of implementation achieved: seven million in metropolitan London, a single street in Durham, a central cordon in Edinburgh, various technical trials in Bristol; possible charges on the entrances to the Peak District National Park.

Lorry road-user charging

The UK Government is committed to a national scheme of congestion charging going live around 2010 applied to all vehicles, but before this scheme is fully implemented, it aims to charge all HGVs on British road network. The first reference to this new measure appeared in the 2001 Labour election manifesto, and was explained as a measure justified by levelling the field between local and foreign freight operators, promising to replace the current road taxes whilst maintaining budget neutrality; the average lorry will pay the same tax.

The system has been developed by the Treasury and will be a distance-based scheme tracking lorries and charging them for kilometres driven and the infrastructure damage caused. This has led to ongoing research at the University of Newcastle, reassessing previous tables of damage by axle type, before any system goes live. It will have to be an electronic system, based on microwave technology or remote sensing technology, such as the Global Positioning System (GPS) satellites. Through this technology it would

Nature of projects reported to BESTUFS

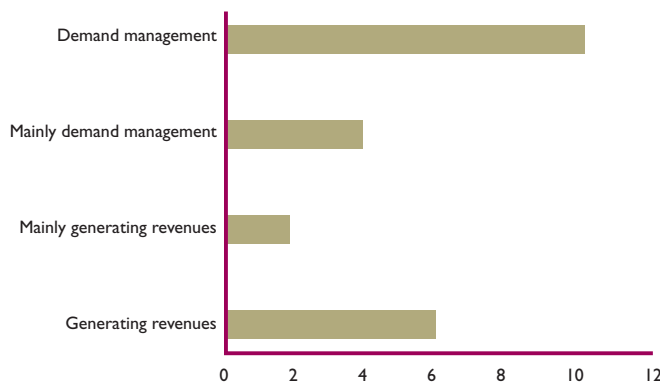


Figure 2

Part of the reason for the success of the Swiss road toll system is the number of different ways freight companies can pay. As well as automatic systems, drivers can also pay cash when using the roads.



be possible for charges to be varied by weight, time and place.

Whilst the original announced date of 2006 has been moved back, the Government is currently beginning the procurement process for the systems and by 2010 we can expect a full road priced HGV system in situ.

The trade organisations have been broadly supportive and the influential Freight Transport Association (FTA) 'welcomes the Government's proposal for a fundamental reform of lorry taxation in the UK'.

The UK model for lorry road-user charging is interesting in that, despite the government's commitment to the Kyoto treaty and the focus of the DfT on energy efficiency and emission reduction, the LRUC is being handled primarily by the Treasury as a tax measure, and promoted and viewed as a form of protectionism, ensuring that foreign freight is made to share the burden of the infrastructure along with UK haulers. This may be due to the degree of public agitation and crisis caused by the fuel duty protests of September 2000, in which UK fuel duty and road tax was compared unfavourably with that of other countries. This was said to penalise UK-based freight operators, and the resulting blockading of fuel terminals almost brought the country to a total standstill. The approach taken on LRUC shows that the political realities of assuaging discontent are more important than any broader transport policy.

Switzerland: pioneering distance-based scheme

Switzerland introduced an electronically collected, distance-dependent road toll for heavy goods traffic, the LSVA system, in January 2001. All freight vehicles with a maximum total laden weight of 3.5t or greater are subject to this fee on the public road network of the Swiss Confederation and the Principality of Lichtenstein. The main reason for this measure was the high heavy traffic levels that Switzerland has to bear given its position in Europe and the Alpine zone.

From 1981 to 2001, HGV traffic increased 605% from 0.17 million to 1.20 million in 2001. Switzerland is not part of the European Union, so its transport policy is in some aspects unique. Transport issues have long been a key factor in the relationship between Switzerland and the EU.

In 2001, the Land Transport Agreement started to regulate costs attributable to road traffic: Switzerland would increase the weight limit step by step to the EU level of 40t and, in parallel, it would significantly increase the transit price for heavy traffic compared to the previous flat daily rate: up to a maximum of CHF325 (approximately €200) for a 40t vehicle.

The Swiss Heavy Vehicles Fee (HVF) is levied according to a number of criteria including the number of kilometres covered on public roads in Switzerland, the maximum permissible laden weight and the emission category of the HGV. The system offers rebates to intermodal freight, and various water-road and water-rail ventures have been launched, using this subsidy to shift mode.

The system uses both On Board Units (OBU) communicating with microwave way stations, and also a manual system for truckers unwilling to buy equipment. The Swiss report that having a wide range of options to truckers and publicising the system extensively in countries across the EU has led to a smooth implementation.

Germany: distance-based scheme

Germany has been about to introduce road freight pricing (MAUT) for some time. In late 2003, it was admitted the project had slipped badly, it is currently expected to commence in January 2005. The amount paid by the lorry drivers will vary between €0.09-0.14/km driven, categorised by weight and emissions category. The legislation allows for charging to differ by time and place as well, but as yet this has not been developed.

The German Government justified MAUT on the basis of the high costs that foreign HGVs impose on the road network, with German taxpayers supporting the costs of maintenance and new construction. Given that a 40t freight vehicle causes 60,000 times more damage to road pavement than a car, it started with freight.

The number of HGVs, or, more appropriately under a distance-based toll scheme, the number of kilometres made by HGVs, on German roads has increased by 20% from 1995 to 2001, up to 76 billion km. But the real worry in Berlin is that foreign haulage contractors are travelling on German roads more frequently than in previous years. Compared to 1995, they have increased their freight output

by over 50% to 97 billion tkm in 2001, above all because goods are now being transported over ever greater distances.

The weight of goods shipped has not increased quite as fast, but has still grown by a significant third. In contrast, Germany's own hauliers carried considerably less weight of raw materials, foodstuffs and finished products – just 2.9 billion tonnes of goods, when in 1995 they transported 10% more.

By charging all these freight movements on the German motorways, the Government would like to collect €2.8 billion annually. In accordance with EU rules, this money may not flow into the German Federal Government's general budget, but must be used for specified purposes: mainly in upgrading transport infrastructure, not just on roads, but also rail and water routes. There are plans to use toll revenues to finance the Federal Government's anti-congestion scheme. This is clearly and openly an intention to carry out a modal shift financed mainly by the road sector.

The automatic log-on system developed by Toll Collect is based on a combination of mobile telecommunications (GSM) and satellite-based Global Positioning System (GPS). The main element of the automatic log-on system is the OBU. With the aid of GPS satellite signals and other positioning sensors, the OBU automatically determines how many kilometres have already been driven on the toll route, calculates the toll based on the vehicle and toll rate information that has been entered, and transmits this information to the Toll Collect computer centre for further processing.

The alternative to the automatic system is manual log-on. This is primarily for truck drivers and transport companies that seldom use German motorways. Under this alternative, the user logs on for the planned route at one of about 3,500 toll station terminals or over the Internet.

Toll Collect is the limited company in charge of this huge task, and it has been strongly criticised by the haulage industry, which accuses it of not having forecast the equipment demand for a fair implementation, with almost no option of buying equipment outside Germany. In

addition, the European Commission announced in July 2003 a formal investigation into whether a proposed rebates system, due to commence once the toll has risen from its launch level to around €0.15/km over the coming years, contravenes the EU state aid rules.

The case of Germany's distance-based tolling system could be the counterpart of the City of London and its congestion charging implementation. Many countries, and the EU itself, are looking to see if such a scheme is really effective in managing the efficiency of the HGV utilisation, increasing fill rates and decreasing empty trips, or if it is purely another way of collecting money. If Germany's scheme appears to be as successful as the London scheme, it is certain that in the years to come we will see more EU countries following the German experience, and it will have a direct impact on the first likely schemes, in the UK and Austria.

Austria

Austria, strategically located in Europe, became an EU member state in 1995. Somewhat Eurosceptic, it negotiated agreements limiting the volume of transit traffic by road through Austria. The limits have been expressed by levels of pollution through a system of Ecopoints – trucks transiting Austria are 'charged' against an account of Ecopoints allocated to each European member state, not by the number of trucks or journeys. Consequently, Austria has been one of the driving forces behind the development and sale of environmentally friendly trucks. The number of transit journeys has remained stable or even grown while the level of pollution is now only a fraction of what it used to be 10 years ago.

In 2003, Austria should have become an unconditional member of the EU, with free access for trucks from other EU member states and with no Ecopoints system, but it has not been possible to convince Austria to drop restrictions without introducing new ones. For that matter, the Council of EU Transport Ministers finally agreed in 2003 to prolong the validity of the current Ecopoints System until a new arrangement has been agreed. The tension between Austria and the EU about the Ecopoints system resulted in

The long-term future for monitoring road use centres on lorry-based monitoring equipment such as this On Board Unit for Toll Collect, the pioneering German system



the Commission taking Vienna to court in a bid to prevent it imposing freight restrictions on the Inntal motorway.

Austria solved the impasse with the introduction of electronic road pricing on 1st January 2004. Following previous traditional tolling and the use of the paper Eurovignette, all vehicles above 3.5t maximum gross weight pay a road charge on the primary road network. The toll is distance and weight based, with no emission or time or place distinction. In this it has adopted the view that freight will not 'reassign' itself to the secondary road network to avoid the charge, unlike Germany or Switzerland where the entire network is included. Since toll roads in France have often seen large flows of traffic opt for the congested but free public roads, this may need reviewing.

The introduction of road-pricing in this form means the highest road toll within the EU for Austria – it is roughly double the German rate. Two axles are charged €0.130, three €0.182 and four or more axles are charged €0.273/km. Austria also charges small vehicles; whereas the German system starts at 12t, the Austrian limit is 3.5t. The system is also justified as a toll system, with a nominal ending date, so the transition from one of the most

eco-friendly systems to one of simple road pricing may actually reduce the environmental impact of this regime.

Selected sources for further reading

The BESTUFS Thematic Network: www.bestufs.net

Urban Transport Pricing In Europe:
www.transport-pricing.net

European Commission: *White Paper: European Transport Policy For 2010: Time To Decide*:
http://europa.eu.int/comm/dgs/energy_transport/index_en.html

PARRY, I W H, and BENTO, A M R, *Revenue Recycling and the Welfare Effects of Road Pricing*, World Bank 1991

LIVINGSTONE, K, *Mayor's Report to the London Assembly*, Greater London Authority: London, 2004
<http://www.transportforlondon.gov.uk/streets/>

German Toll Collect: www.tollcollect.de

Leistungsabhängige Schwerverkehrsabgabe LSWA:
www.lsva.ch

Commission for Integrated Transport: www.cfit.gov.uk

This is a control bridge installed for the Toll Collect German payment system, which monitors passing HGVs



About the author

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Information

For more information on road charging, why not join the Institute's Transport Faculty Road Capacity & Charging Forum?
See Web site: www.cituk.org.uk for further details.