Special issue: Implementing Pricing Reform in Transport

Editorial

Wim Korver and Pascal Eijkelenbergh (Guest Editors)
TNO Inro
Department of Traffic and Transport
Delft
The Netherlands
E-mail: w.korver@inro.tno.nl

EJTIR, **3**, no. 4 (2003), pp. 325-330

1. Policy background

This paragraph is based on [Nash, C. & B. Matthews, 2001]. Transport pricing policy development at the European level took a major step forward in 1995 with the publication of the Green Paper "Towards fair and efficient pricing in transport" (CEC, 1995), which recognised the importance of pricing to reflect external costs. The policy was taken further in the White Paper on "Fair payment for infrastructure use" in 1998 (CEC, 1998). The latter put a clear case for marginal cost pricing, whilst recognising that the movement towards this target would need to be phased over a number of years, and that second best measures to achieve desired levels of cost recovery would continue to be necessary.

These Green and White Papers emerged from an environment of considerable turbulence in the transport field. A range of needs at member state and European level were apparent, including the need to manage transport capacity more efficiently, to finance transport infrastructure, to improve the efficiency of the transport sector by means of institutional reform, and to remove the distortions caused by different pricing principles in different member states. The framework contained in the papers represented the Commission's endeavours to provide a comprehensive pricing principle across modes and countries that would ensure that in times of change there was an underlying scientific basis for the development of pricing in the transport market.

The comprehensive review of EU Transport Policy (CEC, 2001a) reaffirmed the commitment to more efficient pricing of transport in order to internalise externalities, and announced a framework directive on pricing which was to set out the principles to be followed in all modes of transport. This document also sees an important link between pricing and financing, allowing funds raised from some sectors of the industry to be used for worthwhile projects in other sectors where the result is to reduce social costs. Furthermore, a number of mode-specific pricing policy developments have emerged over the period since the Green Paper,

including the "Eurovignette" directive (CEC, 1996), a series of policy statements and directives on rail infrastructure charging (CEC, 1996; CEC, 2001b), the Green Paper on seaports and maritime infrastructure (CEC, 1997) and DG TREN's proposal to amend directive 1999/62 on charging for heavy vehicles[1].

Despite this flurry of activity at the level of the Commission, progress on implementation of the policy has been slow. In the rail sector, where infrastructure charging is generally a new concept resulting from the separation of infrastructure from operations, a variety of approaches to charging has been taken in the different member states. On the other modes there has been relatively little progress. The result is that research has focussed increasingly on implementation issues and understanding the barriers to progress and how they may be overcome.

2. The Transport Pricing Research Programme

The European Commisssion has sponsored a considerable amount of research into Social Marginal Cost Pricing, feeding directly into the development of policy and enriching the academic debate throughout Europe. MC-ICAM, UNITE and DESIRE are some examples in this.

MC-ICAM examined policy reform in the pricing of transportation. In particular, it examined optimal implementation (or transition) paths from a situation with low pricing of transportation to a situation with socially optimal pricing, in which user bear the full marginal social cost of their activities. UNITE however, has been focussing on developing a framework for integrating accounts and marginal costs, consistent with public finance economics and the role of transport charging in the European economy. Moreover, a state-of-the-art set of marginal cost estimates relevant to transport contexts around Europe was provided. The research project DESIRE has delivered a set of best designs for future inter-urban road pricing schemes for heavy-vehicles as well as an in-depth analysis of the different aspects determining the success of the implementation of these schemes. More information about these research projects is available at the related project websites[2].

3. Fully operational transport pricing systems

Not only research projects are carried out at the moment, but also the introduction of charging systems is already reality inside Europe, but also beyond the EU boundaries. Examples include the introduction of the Heavy Vehicle Fee in Switzerland in January 2001. This system has had a major impact on the freight transport market. The charge is worked out on the basis of three factors:

---

[1] Proposal for a Directive of the European Parliament and of the Council amending Directive 1996/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures.

[2] MC-ICAM: http://www.strafica.fi/mcicam/index.html
UNITE: http://www.its.leeds.ac.uk/projects/unite/
DESIRE: http://www.tis.pt/proj/desire.htm

- The number of kilometres covered on Swiss territory;
- The total authorized weight (towing vehicle plus trailer), in other words full charge is imposed even for empty runs;
- Vehicle emissions (assigned to one of three categories).

Moreover there are well-developed proposals for a German electronic truck km charge. This system should replace a flat rate vignette, with the aim of improving the efficiency with which haulers use the road network. Its other prime aim is to secure more equitable treatment of domestic and foreign registered trucks than is the case with the Eurovignette.
The city of Trondheim in Norway has more than 10 years of experience with road user charging. The main objective of this tolling system is to raise revenue in order to finance the Trondheim package". This package is a range of improvements to the local transport system, including new road construction, improvements to facilities for pedestrians and cyclists and enhanced priority and segregation for public transport. Throughout Norway there are several comparable charging systems.
A third innovative example inside the EU is the introduction of the congestion charge in the City of London since the beginning of 2003. The London scheme requires drivers to pay £5 (+/- € 7,--) per day if they wish to continue driving in the central London area during the scheme's hours of operation. Profits will be used to improve public transport, i.c. bringing in extra buses, introducing more routes and improving the frequency and reliability to other routes.
Outside the European Union we see an application of charging in the United States. In this country several (high occupancy) toll lanes, also known as the "Express Lanes" have been realised. One of them is the 8.5 mile stretch of the Interstate Route 15 in northern San Diego County. The Express Lanes in San Diego are physically separated from the main lanes and operate in only one direction depending on whether it is morning or evening. Entry occurs at one point and the entire length must be traversed before exiting. This project is part of the U.S. Value Pricing Pilot Program. Value pricing, also known as congestion pricing and peak-period pricing, entails fees or tolls for road use which vary with the level of congestion. The aim of value pricing is to provide incentives to shift some trips to off-peak times, less-congested routes, or alternative modes, or to cause more lower-valued trips to be combined with other trips, or to be eliminated.

4. Highlights from the contributions

This special issue on 'Implementing Pricing Reform in Transport' is focussing on the way in which Social Marginal Cost Pricing could support pricing reform in transport. The special issue presents a series of papers, mainly presented at the IMPRINT-EUROPE (IMplementing PRIcing reform iN Transport effective use of research on pricing in EUROPE) Conference held in May 2002 in Brussels, in order to give an overview of best practices[3].
The opening paper, by José Viegas, presents some of the current developments related to inter-urban tolling of Heavy Goods Vehicles in the EU. It presents some of the current developments related to this type of tolling, starting with the relevant transport policy

[3] For more information see also http://www.imprint-eu.org/index.htm.

background and a brief review of the various forms of tolling in existence and the main technological approaches used for tolling operations. It appears that several types of technical solutions are in operation, but the countries approaching implementation are opting for different solutions yet. Political difficulties for approval of these schemes at national level have been so strong that the issue of interoperability is shifted to a later stage. It is expected that interoperability may be reached within 10 years, when there will be joint pressure from the demand side (haulers) and from the supply side (technology suppliers). Also the European Commission admits the issue of interoperability. In April 2003 they have proposed a directive on the widespread introduction and interoperability of electronic road toll systems in the Community.

The second contribution, by Andrea Ricci, addresses the pricing issues specifically related to intermodal transport, whereby an intermodal chain is recognised to be more than the juxtaposition of a series of modal activities. This paper draws conclusions by using results from the RECORDIT project. Intermodal transport is found to be consistently cheaper than all-road solutions and its external costs significantly lower, thereby confirming the high potential of intermodal transport in increasing the sustainability of the transport sector. Lead times are however substantially longer than for road, which contributes to explain the currently limited market share of intermodal transport services.

The contribution by Meersman, Van de Voorde and Vanelslander deals with the issue of pricing for port calls and port services. The paper presents a first step in the calculation of the marginal costs of an average port call. A distinction is made between four elements of marginal costs in port operations, being costs for provision of infrastructure, costs associated with the use of the transport mode, costs for supplying port services, and external costs. This material may constitute the basis for a meaningful debate on the implementation of a pricing approach that is grounded on the marginal cost principle.

The fourth paper, by Gunnar Lindberg, examines the main methodological and empirical achievements of recent research on pricing policy for the transport sector. It may be concluded that the latest studies are clearly focused on the marginal external cost and are based on detailed bottom-up methods. The paper also displays the huge variation in the estimates that follows from the use of more detailed databases. While this may be perceived as a problem for blunt pricing policies the paper suggests that it highlights the need for a more refined pricing policy in the transport sector.

Edward C. Sullivan concisely summarises the major success and failure factors of road pricing schemes including their market aspects, drawing from the U.S. experience with the Value Pricing Pilot Program (VPPP). The paper does not describe the whole set of experiments included in the VPPP, but rather concentrates on those featuring flexible mechanisms typically associated to marginal costs pricing (such as toll variations with the time of day). It should be noted that VPPP also includes projects addressing other aspects of perceived road costs, such as projects aimed at converting fixed costs into variable, e.g. shared urban vehicles and distance-based insurance fees. The paper concludes that forward momentum has been established for innovative road pricing systems, but future progress toward more widespread use of congestion-based pricing is likely to take advantage of local opportunities. Moreover, in order to win consumer acceptance, considerable emphasis will be placed on marketing strategies.

Finally the work by Thomas, Dionori and Foster summarises the main findings of an expert group on rail infrastructure, reporting on examples of identified best practice approaches to

marginal cost pricing of rail infrastructure adopted in a number of EU Member States. The paper highlights significant differences between countries in the variability of infrastructure wear and tear costs to levels of traffic. The resulting derived marginal cost also differs widely. The authors provide possible reasons for these differences but recognise that the understanding of the interface between wheel and rail and hence knowledge of cost causation remains fairly limited.

5. Conclusions

Given the current status of research and implementation, the various contributions show that research, and in particular the analysis of the impacts of reforms, must proceed in parallel with implementation, in order to create a virtuous cycle in which research and policy making mutually feed each other. Besides a "window of opportunity" is open for what concerns inter-urban and urban transport. Several experiences in different European cities confirm that an increasing number of cities are already well into the process of rationalising and increasing the sustainability of their transport systems, notably through the design and implementation of pricing policies. And also for inter-urban transport things are moving, e.g. the proposed revised Eurovignette Directive can be seen as a step in the right direction, although still containing many constraints which would prevent fair and efficient pricing of road freight vehicles. In general it can be said that Social Marginal Cost Pricing is still developing. Most practical experiences only use simple pricing schemes, which are far from optimal prices. In the long term fine-tuning of objectives and schemes will be necessary. Some general recommendations based on several Imprint seminars and the papers presented in this issue.

- to continue working on improved pricing systems, without making 'perfection the enemy of the good'. Complexity and simplicity are important research issues – to what extent should we seek ultimately to portray the full complexity of variations in marginal social costs in prices?;
- reform is most needed in congested urban areas – to reduce congestion, environmental degradation and generate finance and local authorities should be supported in this process;
- reform is also needed on trans-European road and rail corridors – to harmonise terms of competition, reduce congestion, environmental degradation and accidents and generate finance. A simple kilometre charge according to vehicle type, along the lines of the revised Eurovignette but with the link between average charge and average costs removed as soon as possible, is a good way forward. This could then gradually be refined in terms of both level and variation with time and space;
- reform in aviation is also important to harmonise terms of competition, to reduce environmental degradation and congestion, and to tackle the allocation of scarce slots. Moves to introduce slot trading, and to charge environmental costs either through a tax on aviation spirit or failing that on navigation charges were needed;
- much less is known about water transport but it appears that reform in ports is needed to harmonise terms of competition and to address environmental degradation;
- further evidence is needed on particular types of impacts – land-use, regional economic, distributional – although the evidence that exists is that these do not pose

serious drawbacks to suggested pricing reforms, and can be mitigated by other elements of the package;

- some particular areas of cost measurement need further research – congestion and scarcity in rail and air, accident risk elasticities, environmental costs for air and water, the role of congestion is leading to costs of greater unreliability on all modes of transport and
- processes and institutions also need research - what bodies should set or regulate prices and be responsible for allocating the revenue? How do prices feed through to and impact upon end-users? Institutional issues are particularly complex in the aviation and maritime sectors.

References

Commission of the European Communities (1995), *Towards Fair and Efficient Pricing in Transport*. Brussels.

Commission of the European Communities (1996), *White Paper. A strategy for Revitalising the Community's Railways*. COM(96) 421 Final, Brussels.

Commission of the European Communities (1997), *Green paper on seaports and maritime infrastructure*. COM(97) 154 Final, Brussels.

Commission of the European Communities (1998), *Fair Payment for Infrastructure Use: A Phased Approach to a common transport infrastructure charging framework in the EU*. COM(98) 466, Brussels.

Commission of the European Communities (2001a), *European Transport Policy for 2010: time to decide*. COM 2001 (370), Brussels.

Commission of the European Communities (2001b), *Directive on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification*. Brussels.

Nash, C. and B. Matthews, *Why reform transport prices? A review of European research*. Paper presented at the first IMPRINT-EUROPE Seminar. Brussels, November 2001.