INTERNATIONAL CONFERENCE
ON
MANAGING TRANSPORT DEMAND THROUGH USER CHARGES:
EXPERIENCE TO DATE

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CONFERENCE CONCLUSIONS

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The views expressed in this paper are those of the author and do not necessarily represent the views of ECMT or those of its Member Countries.
1. The European Conference of Ministers of Transport (ECMT) organised the conference, hosted by Transport for London (TfL), to review experience to date with user charges for managing transport demand. The conference began with a review of the development of urban pricing systems in the United Kingdom and a detailed look at the London Congestion Charge, managed by TfL. It went on to examine road pricing systems in Rome and Singapore and the scheme under preparation for Stockholm. The second part of the conference focused on electronic truck charges, assessing the performance of the Swiss and Austrian heavy vehicle fees, reporting on the deployment of the German system and preparations for a distance charge in the United Kingdom, and discussing EU pricing research and policy. The conference was designed to provide an opportunity to explore the architecture of road pricing systems and understand the impacts the schemes in operation have had on traffic, the economy and the environment. The speakers were asked to reflect on the features of system design that help ensure effectiveness and aid acceptance from practical and political perspectives. These conclusions attempt to summarise the points made and the presentations are available on the ECMT website www.oecd.org/cem/topics/env/London04.htm.

2. Road pricing has been discussed by economists, policy makers and analysts for over 40 years. The theory has highly respectable intellectual credentials and a vast literature. Singapore pioneered a manual version of road pricing in 1975 in the form of its Area Licensing Scheme and implemented successfully the world’s first electronic road pricing scheme in 1998. Singapore has often been regarded as a special case, given its small size, dense development and political system, but its mature experience of practical operation of an effective system has proved that electronic road pricing is technically feasible and cost effective. Following the introduction of urban road pricing systems in Rome and especially London the discussion has moved firmly on from academic questions to more practical and political ones of implementation. Electronic charging has also been applied successfully to the national road systems, for trucks, in Switzerland and Austria. With the implementation of these large scale urban and national pricing schemes, transport policy making as a whole may be at an important turning point.

3. Road charging is not a panacea for transport problems and works best when part of a package of complementary and reinforcing measures that combine to achieve the objectives of policy. These measures include more traditional forms of traffic management, using information technology to direct traffic, public transport improvements, walking and cycling enhancements, parking policies and modification of road infrastructure. Economists have long argued that correct pricing is the best way to make all these other measure work effectively together. But from the political point of view it can be regarded as “nasty medicine” at least until the decision to charge has been taken and the benefits of the medicine begin to be felt.

4. The road charging schemes that have been introduced or that are under consideration are designed to meet objectives that are not always identical. They can be introduced to reduce congestion, to reduce environmental harm, to finance infrastructure, to increase efficiency in the use of infrastructure, to increase fairness in who pays or to meet combinations of these objectives. Meeting these different aims can lead to differences in the kinds of scheme that are introduced, to the categories of vehicles it applies to, and the levels charged. There needs to be clarity on what the aims are. In theory the goal should be to achieve efficient use of infrastructure and maximize welfare. Most of the models depart to
some extent from these ideals. But perhaps the motto should be: “Do not let the perfect be the enemy of the good”.

5. We now see successes in introducing charging, both in cities and more widely. London, Rome, Singapore and the Norwegian cities all show that charging can be successfully introduced in cities. The Swiss HVF and Austrian HGV charge show that it can be introduced on a national territory for trucks. When we look at the features of these systems that have helped ensure a successful implementation, the following five seem to be crucial:

i) A clear reason to do it. There needs to be a political realisation and acceptance that there is a problem and that the existing remedies are not solving it. Where schemes have been introduced, popular support in advance has rarely exceeded 50% but has been seen to grow on implementation. This leads to the second factor;

ii) Political determination to carry it out. A political champion for the proposal has been important in most, but not all cases. More generally, there needs to be strong analytical and engineering support, and backing from people who are not necessarily politicians but who are committed and can deliver on the practical side.

iii) Careful preparation and planning is essential. This includes accompanying public transport and traffic management measures but especially requires:

- Development of traffic models and reliable traffic survey data, as the basis for the design of the system and monitoring of its performance;
- Careful selection and procurement of the technology for the scheme (more on this in sections 6 and 13);
- Communication and consultation in advance with the different interest groups and with the media – consultation must continue after introduction of charging systems to communicate the results of monitoring the impacts of the system, address implementation issues and discuss possible modifications to the scheme;
- Careful choice of when to start operation of the system to ensure good performance in the first few days, which is important in determining the public response.

Timing can be crucial politically and having the analytical and modelling work already well advanced greatly facilitates implementation.

iv) Strong and transparent enforcement. If a weakness exists in the enforcement it will be found. Those who pay need to know that those who don’t will be punished;

v) Use of the revenues collected. A vital point, underlined by almost everyone, is that substantial hypothecation of revenues to dealing with the problems the charge is designed to address assists acceptance and makes a link between the charge and the services provided.

6. Different technologies suit different pricing schemes, depending on their objectives and scope. London and Rome have deployed tried and tested technology with success, though in the early days Singapore took the risks and was a pioneer with this technology, from which other cities now benefit. London uses a particularly simple system for users, using image recognition technology to monitor vehicle number plates and thus avoiding the installation of roadside beacons and in-vehicle transponder units (video surveillance is common to all the systems for enforcement). There are, however, trade-offs to be made between simplicity, cost and the limits to the size of the area over which charging is applied. The London system currently absorbs a large part of its revenues in operating costs. There are significant
opportunities to cut these costs and TfL and the operator are targeting large savings through streamlining the organisation of the system and reducing the cost of some of the technology used. If the whole of the London area were to be subject to road pricing, however, a complete change of technology would be required.

7. The arrangements for private sector involvement are an important aspect to the success of road pricing systems. Some systems are managed directly by government agencies, some contract a private operator to provide the service. The advantage of partnerships with the private sector is that they can mobilise capital and recruit operators quickly. And with care, the contracts between the government and the operator can be used to increase both the transparency and flexibility of the way the system operates and evolves. The contractual arrangements are critical, both to performance and to the public’s confidence in the system, and require much careful preparation and management on the part of the government (though this is something common to all major public-private partnerships).

8. Some broader questions remain. In cities that have introduced pricing, there are some questions that will require a relatively long time frame to answer:
   
   − The traffic impacts on the periphery of the zone affected;
   − The consequences for businesses in the zone charged;
   − The longer term effects on urban structure and on location decisions.

   These questions are by no means unique to road pricing systems. All major transport measures and investments raise similar issues. The big difference with pricing schemes is that they can be rapidly adjusted in light of these impacts whereas major infrastructure investments are irreversible.

9. In London these impacts have been very carefully monitored. With the first anniversary of the introduction of the system only in February 2004 the long term impacts can obviously not be recorded, but it is clear that road pricing is likely to be only a minor factor in determining the economic performance of central London, and London overall, in a year marked by international events with powerful negative impacts. At the same time, the targets set for the system in terms of reducing congestion and improving access have been met. Traffic delays inside the charging zone are down 30% and journey times have been cut an average of 14%. There has been little diversion of traffic to the roads just outside the charging zone, and indeed congestion has lessened on some of the radial routes into London far away from the charging area. The bus network, that is being improved with the revenues from the scheme, has absorbed the largest part of displaced car traffic, and achieved this without overcrowding. The biggest effect of the system has been to improve the reliability of travel time in central London by 30% for all road users: cars, commercial traffic and buses. It has also permitted some other major improvements in the urban environment, including the closure of the north side of London’s historical Trafalgar Square to all traffic.

10. Also in the United Kingdom it is worth noting the impacts of introducing a very small road charging scheme in the city of Durham. Durham is a small town with a historic centre on top of a steep hill. The main shopping area is a narrow street running through the medieval centre that was chronically jammed with cars and delivery vehicles blocking pedestrian access to the shops. Vehicles that wish to use this street now have to pay the modest fee of two pounds (three Euros) with the revenues used to
support a frequent bus service up and down the hill to the city from outlying car parks. The buses can be used for multiple trips at a charge of fifty pence (Euro 0.72) a day. Traffic in the street has fallen 85% and sales in the shops increased since charging began.

11. Whilst urban pricing schemes are largely the responsibility of local government, interurban charging for heavy good vehicles is being very keenly debated at national and international level. In some ways it is more complex than pricing in cities, partly as the range of objectives seems to be wider. It is less about congestion than about covering costs, levelling the playing field between modes or reducing the number of (foreign) vehicles. Also there is great concern about the costs and competitiveness of transport for national haulage industries and for the European economy as a whole. There is a strong international element and, for example, in Germany, one third of the kilometres are by non German registered vehicles. This more diverse, and even confused picture on objectives, partly explains why there are such wide divergences of views on the utility of road pricing between countries.

12. But experience with the systems introduced so far is positive. The Swiss heavy vehicle fee introduced in 2001 has met the objectives set in terms of reducing truck traffic, in increasing efficiency in vehicle use and in the generation of revenues (two thirds of which are used to finance public transport projects, and especially rail infrastructure, to increase rail freight productivity). There is not yet sign of a significant modal shift but this was not expected until the rail investments are complete. The Austrian toll system on the national motorways started without problem on 1 January 2004. It also includes several interoperability features that should be followed by others. The German system has encountered technical problems and its introduction has been delayed. An electronic distance charging system for the UK is also under preparation, planned for introduction around 2006.

13. Switzerland and Austria both achieved trouble-free introduction of systems based on microwave communications between roadside beacons and on-board units – in the Swiss case linked to the trucks existing tachograph. By using a common 5.8 GHz microwave standard the systems are interoperable (the Swiss OBU can be used in Austria, but as the Austrian OBU has no connection to the tachograph it can not be used to pay the Swiss HVF), and the existing conventional motorway “telepass” toll collection system in Italy is undergoing small modifications for interoperability.

   Germany has chosen to introduce a charging system for trucks based on satellite tracking, which will offer greater flexibility in how charges are levied in the future, for example varying charges between different roads and different times of use. This is something the current Swiss system, which applies to all roads, could not do as it can not distinguish between the roads used. The Austrian system, which only applies to motorways, could apply different charges to different road sections but only in as far as the number (420) and placement of road side beacons permit.

   As the pioneer of satellite based monitoring for road pricing, Germany has had technological teething troubles the solution of which will profit other countries adopting similar systems later on. This will eventually include wide-area urban road pricing systems. In many cases the strategy adopted has been to start relatively simply but with a system architecture that permits adopting new technologies as they become proven and as evolving policy objectives require.

14. At international level, revision of the Eurovignette directive in the EU is under discussion. Many interventions suggested that the present proposals from the Commission fall short of previous statements of policy by the Commission and ECMT, by retaining expenditure on roads as the basis for charging rather than switching to estimates of the actual costs of use (including environmental costs) as the benchmark. It is not clear if this departure will make the proposals more or less likely to be accepted.
Nevertheless, the proposals are a step in the right direction as they allow more flexibility to vary charges according to local conditions, which will permit environmental and congestion cost differences to be reflected to some extent. The negotiations underway might even result in a little more flexibility, and bring the rules closer to the long term policy objectives already agreed by Ministers. The current amendments could be the first stage of a step by step approach that would allow the proposals to evolve towards the full implementation of sound economic principles. The existing directive is certainly out of date and needs to be replaced.

15. Establishing an upper limit to charges is the most difficult of the issues to be solved in reaching an agreement. Some peripheral countries fear that their trade and transport industries might be damaged if more central countries require a greater share of costs must be paid by users. They are wary of user charges in central parts of Europe based either on recuperating all the expenditure on roads or on the full costs of using roads (including costs related to congestion, accidents and the environment).

Countries where congestion is widespread can expect either of these two approaches to raise similar revenues. The political issue in these countries is how far interest groups will accept the substitution of user charges for general taxation as the means of funding infrastructure development. The economic concern is that although average charge levels might be similar whichever approach is followed, the distribution and differentiation of charges is very different; the traffic management benefits and environmental incentives available to road pricing systems are lost if charges are not based on the actual costs of use, or not sufficiently differentiated in time and space.

These dilemmas may contain the seeds for a resolution. Pressure from electorates to restrain user charges nationally might be relied upon to limit charges to acceptable levels without the need for a cap agreed internationally, freeing governments to base charges on the costs they perceive as most important in their current situation. Should a cap be found desirable to promote integration of peripheral countries, in place of more direct forms of regional development support, only the level of charges need be the subject of the restrictions, not the way in which charges are formulated.

16. There are some particular elements of the proposals that can help acceptability. The first is the fundamental purpose of the Directive: ensuring non discrimination in the application of pricing, and this should be the primary concern for any international agreement. Emphasising this should help reassure hauliers that prices will not be excessive. A second factor is transparency in the use of the revenues raised. Significant earmarking to improving transport services, and especially to reducing the negative impacts of transport, would help.

17. More generally, the international legal framework for road pricing, including the revision of the Eurovignette Directive, will be best pursued at this very interesting time by looking to make systems as flexible as possible, by allowing experiments and trials, by working towards interoperability of existing technical systems and by allowing time for new measures to come into force. Continuing to exchange experiences on the schemes will also be important, in order to learn from each other and avoid mistakes.