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	<p data-bbox="743 411 1339 749">IEEP is an independent centre for the analysis and development of policies affecting the environment in Europe and beyond, with over twenty years experience of working with policy makers in the European Commission, the British government and national agencies. The Institute has a network of partners in other European countries and collaborates closely with a network of associates in universities, other specialist institutes and consultancies. It has an interdisciplinary staff from the natural sciences, economics and other social scientists, and law.</p>

CHARGING FOR ROAD USE: EQUITY AND EFFICIENCY

A contribution to the ECMT Conference, Sofia, May 2007, on the theme of congestion in road transport

SUMMARY

1. This paper argues the need for **congestion charging or distance-based charging** on roads where peak traffic significantly exceeds the capacity of infrastructure. Pricing policy can help unlock cities which no longer function properly because of traffic congestion; and it can help free up the movement of vehicles on inter-city routes; it can apply both to freight and to passenger vehicles. The principles of charges that reflect **external costs to society** have been elaborated in many studies, not least by the ECMT itself. The ideal would be charges that vary as and when congestion arises. Although much technical work has to be done (and is in hand) to turn the theoretical principles into practicable schemes, the main problems now lie in the political sphere in dealing with **public mistrust**. Public opinion and business interests often fear additional taxes imposed with questionable justification, double counting, and infringement of privacy.
2. But there are **ways of meeting these objections**. IEEP argues this case primarily from an environmental perspective, but the optimum solution is equally beneficial for the economy and business interests. Congestion charging or distance-based charging designed carefully should bring **noticeable benefits** to the business and domestic driver as well as to the environment.

THE IMPACTS OF CONGESTION

3. In any mode of transport the problem of congestion has a variety of impacts. Uncertainties and delays in travel generate **additional costs** to the public, businesses, and the economy. Conference paper CEMT/TMB(2007)3 notes that there are secondary as well as primary costs from delays but also emphasises that the unpredictability of journeys as a result of congestion causes even greater disruption than time delays *per se*. Congestion adds to **climate change** through higher emissions of carbon dioxide: road traffic burns more fuel when stopping and starting. The same logic means increased emissions of **other air pollutants**, nitrogen oxides and particulates for example, harmful to the health of people living in cities or near major roads and airports. **Noise levels** rise from the greater acceleration, deceleration and manoeuvring. Finally, congestion at peak times creates **demands for new infrastructure**: land taken for new roads or road widening, resulting in damage to the fabric of towns and cities and a loss of countryside, amenity and habitats.
4. Congestion levels vary considerably. While policy-makers in some cities, regions or countries are struggling to develop better instruments for reducing congestion, there can be a lack of understanding and sympathy from other administrations, from industry-wide groups or from the public. Everywhere, however, congestion is increasing. While there will always be a role for new infrastructure and better traffic management, ultimately the most severe congestion will not be overcome without **an element of congestion charging or distance-based charging**. Equally, finance for new infrastructure should always be designed with congestion mitigation in mind.
5. As the conference papers show, there is **growing evidence that congestion charging works in practice**. London's Congestion Charge is a familiar example. Charging has resulted in a measurable and lasting reduction in the volume of traffic, while walking and cycling in the city have increased. Also, both the reduction in congestion and the use of charging revenues to invest in additional buses have led to a significant improvement in the reliability and speed of London's bus services – and, overall, public satisfaction with the experience and increased ridership. As a result, London's government has proposed an extension of the charging zone and made a new proposal for a Low Emission Zone. This new scheme will cover most of the conurbation with a daily charge imposed upon the dirtier heavy goods vehicles and passenger transport vehicles from 2008, extending to vans and minibuses from 2010.

CONCEPTS OF PRICING

6. In principle, **carbon emissions and other pollutants** can best be priced through taxes on fuel consumption, adjusted to reflect the cleanness of different fuels. This holds true for both carbon and other air pollutants. **Noise** can be taxed too, most easily through taxation on the types of vehicle. But **congestion needs separate action**. Congestion is an

economic, social and environmental cost in its own right, and it therefore needs to be addressed through a separate tax or charge.

7. An **ECMT** paper of 2003¹, endorsed by Ministers at the time, remains one of the clearest expositions of the principles to be followed for economically efficient, non-discriminatory and environmentally friendly policies. Among other points, this paper included the following advice:

“The key to achieving the potential benefits of pricing reforms is to charge close to the point of use of the infrastructure. This would enable rational decisions by individuals and firms, informed by price signals of the full costs of their travel demands, to determine traffic levels and trends in transport demand. “

8. More specifically, that paper advocated “**short run marginal social cost**” pricing². In essence, with such a regime road users would pay for:

- Maintenance and administration costs
- Traffic management and emergency services
- Congestion – but only at the point where traffic flow exceeds the capacity of the road.

As congestion payments are triggered, drivers would receive encouragement to travel by other routes or at other times, thus smoothing out flows. Governments would receive signals that additional capacity might soon be required, or alternatives should be provided, and the congestion component of the charge could be earmarked if they wished as a contribution towards new infrastructure construction, better road maintenance or other public purposes.

9. This approach was also proposed a few years ago by the **European Commission** for road charges on trucks (the Neil Kinnock “Eurovignette” proposals). New proposals were agreed after long delay, and in 2006 a revised Directive (2006/38/EC) set new framework conditions for the implementation of HGV charges. Reflecting a policy compromise agreed between the **European Council of Ministers of Transport** and the **European Parliament**, this requires charges to be differentiated according to environmental criteria from 2010 onwards, but with few exceptions charges can still cover only direct costs, with the costs of environmental externalities excluded. A unified calculation method for the latter may be agreed on in the coming years, after which it may become allowable to include them. In preparation for this, the present Commission has started work on a model for the assessment of external costs which it should present by June 2008.

¹ *ECMT paper of 2003 on Reforming Transport Taxes and Charges, page 3.*

² *Marginal* because we are concerned with the impacts of adding one more user to the system. *Social* because we are interested in the costs to other drivers and to society as a whole, including safety and the environment.

10. The concept of internalising external costs has moved out of the universities and firmly into the political realm. There remain many detailed questions to be resolved about methodologies of calculation. These are not straightforward, but they need not be discussed here³. This paper instead turns to the **sensitive dimension of public acceptance**. So long as fears or hostility are deeply rooted in significant parts of public and business opinion, no amount of technical progress with concepts and definitions will be enough.

PUBLIC AND BUSINESS OPINION

11. Although there is widespread academic endorsement of such an approach, public opinion and business interests are often not persuaded. Paper CEMT/TMB(2007)5 observes that setting the level of charge can be politically sensitive - "particularly when charges have to be raised to keep up with inflation or to find a level that clears congestion" (page 4). There are **fears that congestion or distance charges**, especially those that apply at the point of travel to individual trips, **might**:

- Give rise to additional taxation generally or to excessive levels of the specific charge;
- Require technology that is over-intrusive and a threat to personal privacy;
- Amount to double counting if the infrastructure has already been financed from general tax revenues;
- Be incompatible with tolls imposed to refund investment in specific roads, and (a more recent concern) be inconsistent with PPP funding.

12. These concerns can be met and countered. There is no need for the cruder fears that pricing policies are part of an unreasoning and unconstrained 'green push' to raise taxes generally without justification or concern for the economic and personal effects. Each proposal should be fully examined and justified through the well-developed techniques of **impact assessment**. Offsetting reductions in other taxes and charges can be adopted to ensure **revenue neutrality**, and the specific levels of charges can be limited by law to meet only the marginal cost or to a lower figure.

13. **Privacy** is a major concern of the public, as has been seen recently in the UK with a popular petition addressed to the Prime Minister through his official website. Some of these concerns can be addressed through system design, but ultimately there has to be legislative protection or assurances given by the authorities about the use of data on driver movements. There also has to be public trust and a belief that excessive congestion on the roads is no longer tolerable.

³ The European Commission has engaged a group of experts, lead by CE Delft, to advise it, and a workshop with governments and other stakeholders was held on 15 March in Brussels.

14. More difficult is to meet the concern that congestion charging or distance-based charging would be double counting where the infrastructure has already been financed from general revenues or by tolls on individual roads. This has been the fear of some hauliers in Europe in debates on the EU's 'Eurovignette' Directive. In part, the solution can be found in **offsetting reductions in other taxes and charges**.
15. Those governments that wish to promote **PPP funding** might be reluctant to impose a regime of congestion charging or distance-based charging on their private sector developers. However, there are ways of handling this with the private sector partners provided the congestion element is identified at the time of negotiation. One particular solution might be for the public administration to charge motorists but to reimburse the private partner on a separate basis, in effect a form of 'shadow pricing' reflecting the volume of traffic. But direct congestion charging could be handled very successfully by a private firm or consortium, bringing private sector management and marketing skills to bear on the problem of traffic management.

GAINERS AND LOSERS

16. It must be acknowledged however that there could be **distributional effects**. For example: reductions in vehicle taxation and fuel taxes would not bring the same benefits to vehicles registered in other states or buying their motor fuel mainly in other tax jurisdictions. This is known to be a concern to some groups of hauliers in Europe. Among members of the public there are often fears that those living in rural areas might suffer from a general application of charges that have been introduced with urban congestion or inter-city bottlenecks in mind, and there are concerns for costs falling upon the poor.
17. The answer lies in **consultation and persuasion**. Hauliers and private motorists should be encouraged to consider:
- That congestion charging or distance-based charging is necessary in regions or cities where congestion has become a severe pressure on the economy, society and the environment.
 - That the principle of price signals that reflect social and environmental external costs is fair and appropriate.
 - That there can be limitations set on the level of charges so that these do not exceed the level of the extra external costs⁴; as a consequence, in many cities and over extensive inter-city routes the charges would be no more than sufficient to meet the costs of providing and running the infrastructure.
 - And that there are also benefits to the road user.

This last point requires elaboration.

⁴ ie short-run, marginal social costs

THE PRIZE FOR ALL

18. Above all, we should note the **benefits to road users** of congestion charging and distance-based charging. Hauliers, for example, can plan their routes with less fear of congestion and therefore greater predictability about delivery times. They can reduce their costs by selecting journey times and routes with low charges. Or they can pay extra for driving when and where they need with the assurance of maintaining normal speeds. Some enlightened operators have now accepted this line of argument but others – in particular many working from peripheral parts of Europe, have not.
19. In smoothing out peak flows of traffic, in encouraging other routes and other modes of transport, such a pricing policy can also bring **environmental benefits**: it can reduce carbon emissions and other airborne pollution, noise, and the loss of land and habitats to new infrastructure. This is one illustration among many of the ways in which business interests and environmental protection can often go hand in hand. The key here, as so often, is to be found in pricing signals that reflect the external costs to economy, society and environment as well as the direct costs of providing and operating the infrastructure.
20. Much expert work is taking place on the development of the theory and practical application of congestion charging and distance-based charging. In parallel there should now be substantial effort in the political sphere to address the fears and opposition frequently found in public opinion and among business interests. The views of these interests are also reflected in the policies of some national governments, so here too there is a task of persuasion to be undertaken. With a strong interest in environmental protection everywhere, and a growing sophistication in the public, **there should now be a greater readiness to accept the logic of internalising external costs, and a greater appreciation of the equity and efficiency of such policy measures.**

END.