

## CHARGING FOR TRANSPORT COST

The European Commission has initiated a debate about the true cost of transport in various modes and how to charge the user for it. The debate was initiated with the 1995 Green Paper 'Towards Fair and Efficient Pricing in Transport' and continued with the 1998 White Paper on 'Fair payment for infrastructure use'. The other institutions have joined the debate and generally favour implementation of "the user pays" principle as a basis for charging structures.

The following is quoted from COM(2001)370 - White Paper on European Transport Policy :

*"The 2000 Gothenburg European Council pointed out that "a sustainable policy should tackle ... the full internalisation of social and environmental costs. Action is needed to bring about a significant decoupling of transport growth and GDP growth, in particular by a shift from road to rail, water and public passenger transport."*

*The thrust of Community action should therefore be gradually to replace existing transport system taxes with more effective instruments for integrating infrastructure costs and external costs. These instruments are, firstly, charging for infrastructure use, which is a particularly effective means of managing congestion and reducing other environmental impacts, and, secondly, fuel tax, which lends itself well to controlling carbon dioxide emissions. The introduction of these two instruments, which will allow greater differentiation and modulation of taxes and rights of use, needs to be coordinated, with the first being backed up by the second."*

The Council suggests that charging structures that cover infrastructure and external costs will lead to a modal shift from road to rail and water. This assumption has been debated intensively since this conclusion is far from foregone. There are certainly major hurdles on this path, hindrances of a political, theoretical and practical nature. To mention a few :

- The terminology surrounding transport cost is rather complex and does not lend itself for a clear understanding by the general public. What should the average European citizen think if he is asked to pay for 'marginal social cost' ? This lack of precision in definition leads to different interpretations by different experts.
- The actual assessment of a cost factor is usually quite problematic, in particular when variable costs are concerned. The variations may be attributed to differences in definition, in methodology, between transport modes and between geographical regions.
- The social resistance against comprehensive charging systems is considerable.

These difficulties may be illustrated by examining the structure of transport cost in greater detail.

The following cost categories are distinguished :

Direct costs	Indirect costs		
	Infrastructure	Social costs	Environmental costs
Depreciation Maintenance Fuel Other	Land } Capital Construction cost Operation + mainten.	Accidents Congestion Noise	Pollution of air Pollution of water Climate effect

Note : Some studies incorporate the cost of spatial impact or indirect use of land. It is not obvious that this is realistic, nor it is clear whether these would be infrastructure or environmental costs.

In most countries the whole or part of the variable infrastructure costs is recovered via taxes (road tax, excise duties on fuel, value added tax, etc.). Some of the indirect costs may be covered by insurances for example.

All the costs that are not charged to the user directly or via taxation are defined as “external costs”. The Council and the Commission promote the concept that social costs and environmental costs should be “internalised” and charged to the users as “internal costs”. In spite of fierce debate on how this should be done, the heart of the problem of full cost of transportation lies probably in the cost of infrastructure. This becomes clear when the results of several studies on the cost of freight transport are compared.

COST (□ ct / ton km)	ROAD <sup>(1)</sup>					RAIL					WATERBORNE				
	1)	2)	3)	4)	5)	1)	2)	3)	4)	5)	1)	2)	3)	4)	5)
Infrastructure															
• Capital cost	1					8					0.5				
• Operat. + mainten.	?		0.5			?		2.0			?		0.8		
Social	} 4	1.0	} 2.0	} 2.5-18 <sup>(2)</sup>	0.9	} 3	0.1	} 0.5	} 1	0.1	} 2	/	} 0.1	} 1	p.m.
Environment		2.4			1.4		0.8			0.9		0.7			0.3
(Land use)	0.5					1					2 <sup>(3)</sup>				

- Notes
- (1) Reference based on heavy solo truck (20 ton).
  - (2) The cost range is the result of various degrees of congestion.
  - (3) The cost figure for use of land is not very credible : a river exists; a canal has multiple functions.

### Sources

- 1) Investigating Mobility - Dutch Ministry of Transport - 2000.
- 2) Dings et.al. - Efficient Pricing for Transport - CE Delft - 1999.
- 3) C. de Vries - Waterborne Freight Transport - Van Gorcum, Assen - 2000.
- 4) B. de Borger et.al. - Mobility : The Fair Price - Garant - 1998.
- 5) PIANC Report
- 6) COM(2001)370 - White Paper, European Transport Policy for 2010.

Aggregate numbers (□ ct / ton km)

	<b>Road</b>	<b>Rail</b>	<b>Water</b>
Infrastructure			
• Capital	1	8	0.5
• O & M	0.5	2.0	1
Social	1 - 16 } 4-16	0.5 } 3-5	0.5 } 2-3
Environmental	2	1	0.5

The aggregate numbers appear to give a reasonable idea of the relative cost comparison between transport modes.

The major uncertainty lies in the investment or capital cost for infrastructure, which varies enormously per transport mode and is difficult to assess anyway. Much infrastructure has been around for many years and the investment cost has long been forgotten. The cost of a river to function as a waterway is the cost of maintaining it. It is apparent that in many cases the infrastructure cost of railways is very high compared to other transport modes.

If one regards construction cost as a public cost that is not charged directly to users, than railways should be able to compete with road transport. The implication for this to be the case is that the network and the train service are strictly separated in different companies; the network company will charge for the cost of maintaining and operating the network, but not for capital cost. Investment is paid from the national coffers.

If the separation would not take place then the cost to the railway operator includes the full infrastructure and becomes excessive; the operation requires major state subsidies, which in turn distorts competition between transport modes.

It is above all clear that the full cost of waterborne transport of freight is comparatively low and that the transport mode should be given a fair chance to grow its share in the modal split.

Beyond these observations it is hard to see how charging systems may be developed that are simple, fair, transparent, mode neutral and acceptable to the users, all at the same time.

The specific EuDA positions are :

- The maintenance of waterways, navigation channels, access channels to ports is a public service, the cost of which should not be directly charged to users. Waterways generally serve multiple purposes (energy, environment, resource) amongst which the transport function is not dominant.
- Any framework for charging transport costs must respect existing international agreements. For waterborne transport the Act of Mannheim guarantees free passage for traffic on the Rhine.
- Since the problems of congestion are limited mainly to road transport (and are connected with the high ‘external cost’) a cost charging framework should first be applied to the road sector.
- A more important role for waterborne transport can be stimulated by actively promoting intermodal transport.
- User charges for waterborne transport should be limited to the use of specific infrastructure (locks, bridges, etc.)