



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.5/2003/6  
23 May 2003

Original: ENGLISH

---

**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

**Working Party on Transport Trends and Economics**

(Sixteenth session, 24-26 September 2003,  
agenda item 7)

**RELATIONSHIP BETWEEN TRANSPORT AND ECONOMIC DEVELOPMENT**

Report of the Informal ad hoc meeting on relationship between transport and economic  
development (9 May 2003, Geneva)

**I. ATTENDANCE**

1. Mr. B. Chevalier (France), Mr. S. Aciman (CETMO, Spain), and Mr. T. Worsley (United Kingdom) attended the meeting. The representatives of Germany, Netherlands, Poland, Russian Federation and the European Conference of Ministers of Transport (ECMT) were unable to attend.

**II. MANDATE**

2. Following the request made by the Working Party on Transport Trends and Economics at its fifteenth session (TRANS/WP.5/32, para. 37), the secretariat convened an informal meeting in order to formulate concrete aspects of the relationship between transport and economic development for future considerations by the Working Party.

**III. CONSIDERATION OF SPECIFIC ISSUES IN RELATIONSHIP BETWEEN  
TRANSPORT AND ECONOMIC DEVELOPMENT**

3. Before starting the discussion on specific issues, the participants briefly referred to the relevant documentation (country reports, SACTRA report, SPRITE research programme) that was made available to the Working Party at its previous session when it discussed the relationship between transport and economic development. Thereafter, the participants provided a succinct review of the related ongoing activities in their respective countries.

## National approaches

4. The National Plan for protection of the environment and the National Strategy for sustainable development in France provide a framework for the assessment of various aspects of the relationship between economic development, transport and environment and the analysis of possibilities to decouple links between them. Evaluation of transport costs and possibilities for their reduction represents another specific area of interest. Within this context, the internalization of external costs of transport is of particular interest, especially aspects related to the selection of various external costs, their calculation and methodologies for their internalization in the overall transport costs.

5. Large infrastructure programmes are being implemented in Spain. Another area of current interest concerns the role of transport in the economic development of regions and the effect that transport developments may have on regional development. Some preliminary considerations point to the fact that, when considering the role of transport in economic development and when examining their interrelationship, it might be necessary to take into account the overall level of economic development in a region or a country. At a certain threshold of economic development, the role and impact of transport, as well as its relationship with economic development might need to be reconsidered as the interplay of factors involved change with different levels of development of transport and the economy. A suggestion was made that the outcome of SACTRA research might have given somewhat different results if it had been applied in a less economically developed country than the United Kingdom.

6. In the United Kingdom, the 10 years' Plan for transport is being implemented with a main thrust being given to the reduction of road congestion in big urban conglomerations and on interurban roads, as well as to the policies to increase rail passenger and public transport. As the available financial resources and environmental concerns limit further investment in road capacity, more attention is being given to better management of road transport capacities, improvement in rail infrastructure and urban congestion charging.<sup>1</sup> Further examination of road user charges for goods vehicles and modalities for their implementation is another area of concern. External costs of road and rail transport are also being intensively studied in the UK.<sup>2</sup> The disaggregation of marginal social costs of transport (pollution, congestion, noise, etc.), related to the type of the geographical area, speed and quality of transport service in both road and rail transport, as well as their internalization in the price of transport service is further being studied. Marginal social costs of rail transport are increasing in the UK, which is opposite to the trend observed in other European countries.

---

<sup>1</sup> The UK Government has plans to introduce a distance-based lorry road-user charge. The charge is to apply to heavy goods vehicles according to how far they drive on UK roads. The aim of the charge is to ensure that all hauliers, regardless of nationality, using UK roads pay fairly towards the costs they impose. Further details are available from the UK Department of Transport at:

<http://www.dft.gov.uk/itwp/lorryroad/lruc01.htm>

<sup>2</sup> The UK Department of the Environment Transport and the Regions appointed the Institute for Transport Studies, University of Leeds, in association with AEA Technology Environment, to undertake the study of "Surface Transport Costs and Charges" which was completed in 2001. The report provides two sets of information that may be used in a complementary way for transport policy development in relation to charging, economic efficiency and cost coverage perspective for the road and rail sectors. Results for 1998 are presented for Great Britain. Further information on the availability of the study is available from The Institute for Transport Studies, University of Leeds, <http://www.its.leeds.ac.uk>.

7. Further review of the SACTRA report and the attempt to more clearly demonstrate the relationship between transport and economic development is another area of activity in the UK. The objective is to identify specific measures and products where investment in transport will boost the productivity and reduce disparity between economic growth rates of the various regions. Micro-economic level studies of the effects of transport investment might help in reducing regional economic disparities. Various transport schemes should be promoted not only on the basis of their contribution to the increase of accessibility and the reduction of travel time, but also on the basis of their contribution to the local job creation and the reduction of unemployment.

### **Transport intensity**

8. In the discussion of general aspects of the relationship between transport and economic development, participants noted that the focus should be on non-investment considerations and measures that could improve the effects of transport on economic development without adversely impacting the environment and the potential for further economic growth. Particular aspects of this relationship may differ from one country to another. It was noted that as the economic level increases and higher levels of economic development are attained, in countries where transit traffic is not significant, the demand for transport grows more slowly than income as elasticity of demand decreases.

9. It was noted that transport volumes have closely followed trends in economic activity over recent decades. The current rate of increase in transport volumes is outstripping the rate of improvement in environmentally-sensitive technology for transport, resulting in increasing environmental, health, and economic problems in the transport sector. Such an increase in transport volumes will generate considerable problems, especially when most of this growth is to be absorbed by road transport, and the prolongation of present trends in transport growth and in technology would lead to unacceptable environmental impacts. The relationship between economic development and transport is characterized by countervailing trends, which may develop in such a way that slowing down transport growth is not only an environmental necessity but also an economic advantage. In order to maintain an increase in prosperity, it might be necessary to learn how transport growth could be decoupled from economic development. Thus, the concept of transport decoupling, that could be simply defined, as a decrease of the transport intensity for a given gross domestic product (or other appropriate measure of economic growth), has emerged in the debate in the last decade.

10. The participants thought that one way of studying the possibility for breaking up the link between transport and economic development might be based on the establishment of a commonly accepted measure of transport intensity. Although the term is relatively widely used, there is, however, no single definition of transport intensity or established way of measuring it. A possibly suitable measure of transport intensity in relation to economic activity could be defined in terms of the ratio of passenger movements, freight movements or a combination of both and GDP (using the concepts of net mass movement and gross mass movement<sup>3</sup>). Net mass

---

<sup>3</sup> The net mass movement of people and goods is calculated by dividing total passenger-kilometres by 11.11 (on the assumption that people with luggage weight 90 kg on average) and adding this figure to the total volume of freight moved (in tonne-kilometres). The calculation of gross mass movement of people and goods is similar to the calculation of net mass movement but also includes the mass of the vehicles used to carry the people and goods and the movements of empty vehicles.

movement, although a simple weighted average of passenger and freight movements, could be used in order to monitor and compare trends in transport intensity. Comparing the movement of transport intensity and GDP might provide an insight into the dynamics of two tendencies over time and effects of various measures aimed at reducing the transport intensity.

### **Measures to decouple transport from economic development**

11. The need to consider decoupling transport from economic development is gaining importance in policy considerations as the economic development advances and priorities in economic, transport, environment and social policies change. At lower levels of development, considerations about sustainable development may not be at the highest level of the agenda of the policy makers. However, these considerations will gain importance and, therefore, require reconsideration of the interrelationship between transport and economic development as economy develops, transport intensifies and safety and environmental considerations become more critical.

12. Considering the possible policy instruments that may lead to a decoupling of transport from economic development, the participants agreed that pricing policies represent a very important segment. Optimal pricing policies that will take into account marginal social costs of transport, differences between urban and non-urban transport and various transport modes and disparities between developed and developing regions, should, in principle, facilitate the decoupling process. However, while pricing of externalities and their different values in various countries represent a problem in itself, the implementation of such policies in practice represents an even bigger challenge due to different values attached to externalities as well as other practical and political factors. Further research and study should be carried out in order to provide insights into the practical aspects and implications of the implementation of pricing of externalities in transport.

13. It was also noted that pricing policies alone might not be sufficient to influence transport intensity. Although in some areas pricing policies might be effective, regulatory policies often have a better long term effect on transport intensity in particular domains (vehicle emission regulations). The combination of regulatory and pricing policies might, therefore, be more effective in reducing transport intensity in the long term perspective and the right mix, including taxation policies, could change the pattern of transport demand to correspond to the dynamics of economic development. A regional policy that favours a high bulk and low value production in peripheral regions and high value and low bulk production in central regions might, therefore, be wrong, as it contributes to a higher transport intensity than would be in the reverse case.

14. Another issue that needs to be taken into account when considering the possibilities for reducing transport intensity refers to territorial and spatial planning. Although geography plays a dominant role in transport demand and economic development, territorial and spatial planning, involving location of industries, habitats and other economic and social centres of activity could play a significant role in reducing travel time and thus transport intensity. Spatial planning could effectively be used in decreasing the need for transportation, affecting the land use and lifestyle policies.

15. As empirical evidence shows, urban congestion represents between 80-90% of the total transport congestion. Major capital investment in highways and other infrastructure as well as in public transportation systems are currently funded, in part, through various taxes and fees on users, such as fuel taxes or sales taxes, tolls on certain roads, tunnels and bridges. However, these revenue-raising instruments do not always provide strong incentives for efficient use of transport infrastructure. For example, the tax rates on gasoline, which are the same regardless of whether transport users are travelling during congested or uncongested periods, provide no incentive for users to use infrastructure more efficiently. Numerous methods can be used to address congestion and reduce transport intensity, including building new infrastructure, improving maintenance and operation of infrastructure, and using the existing infrastructure more efficiently through demand management strategies, including pricing mechanisms. Congestion pricing is useful for mitigating the delay costs of congestion. If users were charged extra for peak-hour use, some would shift to less busy times, or make other adjustments, thereby alleviating delays at the peak period.

16. Implementation of urban congestion charges in London, for example, has triggered a number of considerations related to spatial distribution, their effects on attractiveness of the area under charges and distribution of revenues. Participants felt that the implementation of urban congestion charges should not make the areas under regime less economically attractive and that revenues collected through charges should be directed to local authorities and earmarked for further improvements in the transport situation and mitigation of the congestion effects. However, problems connected with the implementation of interurban congestion charging is much less clear and distributional and spatial effects need to be taken into account when considering different schemes. The participants underlined the need for further studies and the assessment of good and successful policies for interurban congestion charging and distribution of revenues collected through them.

17. In addition to regulatory and economic measures aimed at reducing the congestion in urban agglomerations, the logistics industry might also be able to provide more efficient solutions for the reduction of transport intensity in urban areas through cost-effective and ecologically friendly measures and a better utilization of goods vehicles (especially light vans) in major cities.

18. Furthermore, the participants considered infrastructural aspects of the relationship between transport and economic development. It was noted that a new infrastructure could lead to increased prosperity of less developed and poorer areas by improving the access to jobs, education, schooling and housing, but that transport developments alone would not be able to move economic development ahead. In addition, new infrastructure would generally lead to a reduction of transport costs but it may also have adverse effects on transport intensity. As newly provided infrastructure might alleviate congestion and reduce environmental pressures on certain main and busy arteries, it may divert and generate additional traffic elsewhere.

19. Marginal cost pricing should be a guiding principle for decision-making in the provision of new transport infrastructures. The evaluation of the overall social costs and benefits and taking into account the wider economic benefits of infrastructure projects, should lead to better judgement in making decisions about the new infrastructure. Such approach better reflects the real costs to the society and prices that users pay for particular services. However, such orientation does not exclude political choices that may differ from one country to another. The

more distorted prices, including those of transport services, prevail in an economy, the more distorted gross domestic product will result. Therefore, the use of the marginal cost pricing in transport should ensure less distortions in the overall pricing mechanism and contribute thereby to an improved value of the GDP.

## **Conclusions**

20. In summing up their consideration of the relationship between transport and economic development, the participants felt that clarification of this multifaceted and complex relationship might benefit from the further study of the following aspects:

- (i) The “threshold effect” of the economic development – the changing role of transport and its relation to economic development at the various stages of economic development (transport intensity at the various stages of economic development, relationship between the price of externalities and the level of economic development, shifts in income elasticity at various stages of economic development, etc.);
  - (ii) The role of pricing policies and mechanisms in influencing opportunities for decoupling transport growth from economic growth (determination of the level of external costs of transport and related tariffs, implementation of externality pricing and distribution of revenues);
  - (iii) The effect of spatial planning, land-use policies and policies affecting life-styles as well as other policies outside the transport sectors that may affect transport intensity and facilitate decoupling of transport from economic development;
  - (iv) The provision of infrastructure and infrastructural aspects of the relationship between transport and economic development (the role of marginal social costs, the basis for making investment decisions about the new infrastructure).
-