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TRANSPORT TRENDS AND ECONOMICS

Studies on transport economics and track costs undertaken by other organizations

Transmitted by the European Conference of Ministers of Transport (ECMT)

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CONCLUSIONS OF THE ECMT ROUND TABLE 128 : IMPROVING NATIONAL SYSTEMS OF TRANSPORT INFRASTRUCTURE PLANNING Paris, 26 – 27 February 2004

The Round Table discussed major changes in national systems of transport infrastructure planning and the lessons to be learned for a further improvement of the planning processes. Background papers were provided by rapporteurs from France, Germany, Italy, the Netherlands, Spain and the United Kingdom. The basic themes of the Round Table were the rationale of infrastructure planning and the related reform needs, the decentralization of planning institutions, reforms of planning and evaluation methods as well as reforms of infrastructure financing and pricing.

Functions of Planning and its Reform

While it is generally agreed that the transport infrastructure planning process is a precondition for the rational use of the resources allocated by transport policy, there are at times remarkable differences between planning outcomes and implementation results. To increase the effectiveness of the planning process there is still a need to broaden the set of statistical data the planning is based on. The planning process sometimes suffers from being isolated from other relevant policy areas, and being too limited in scope. The latter problem is often a result of the fragmentation of the overall process into planning exercises for individual modes. More public

consultation and stakeholder involvement helps to avoid planning processes being understood as merely technical exercises with ensuing acceptability problems.

Decentralisation

In many member countries transport policy is being decentralized. The decentralization helps to overcome problems of acceptance of infrastructure policies. It has, however, the downside of a growing disregard for the interjurisdictional spillovers which follow from most transport infrastructure projects. If decentralization is not accompanied by a transfer of fiscal responsibility, it may weaken the impact of planning on the implementation of transport infrastructure projects.

Planning and Evaluation Methods

The Round Table agreed that the core of the planning methods should be cost benefit analysis. What makes the cost benefit analysis of infrastructure investment projects demanding and costly is the fact that they are fraught with problems in evaluating non-monetary effects. The relative importance of qualitative evaluations for the planning outcomes should be made explicit and should be verifiable by political decision-makers and the public. The same is recommended for the weighting of distributional effects. For large projects the planning methods should allow for the inclusion of the secondary effects of trade and spatial reorganization.

Finance and Pricing

Efficiency requires that the transport infrastructure services should be priced according to marginal cost. As in many cases marginal cost pricing does not cover full costs, it should be implemented by two- or multi-part tariffs. As private providers of transport infrastructure services will often enjoy considerable discretion in setting prices and quality standards, the privatization has to be accompanied by suitable regulatory measures.

Transport infrastructure planning and construction practices vary considerably from one country to another, both in Europe and worldwide, due to the influence of differing historical, geographical, sociological, demographic and economic factors. Institutional arrangements are undergoing considerable change, with many governments re-defining the roles of the public and private sectors in deciding on the allocation of resources to improve the efficiency of the transport sector. Trends vary widely between different transport modes, between different levels of government and according to the relative importance of transport infrastructure projects. Consequently, there are limits to the potential for drawing up standard planning procedures. Within these limits, however, lessons can be drawn from the experience of infrastructure planning systems in a sample of ECMT member countries. These lessons concern the general function of the planning system, institutional reform, planning methods and models of financing infrastructure, and can be applied not only at national but at international level.

1. FUNCTION OF PLANNING AND ITS REFORM

National systems of transport infrastructure planning have been introduced in order to rationalize the allocation of resources to transport infrastructure investment and achieve the objectives of transport policy. Data collection and sound forecasting are fundamental to this task. To avoid simplistic predict-and-build conclusions the forecasts have to be based on policy projections to identify sustainable solutions which can satisfy mobility needs whilst taking into account environmental, demand management, regional development and distributional objectives.

The importance of collecting appropriate data for the assessment of transport infrastructure needs, of preparing robust forecasts of future developments in the transport sector, and of developing adequate technical solutions as a basis for sound financing decisions have been reiterated many times including in the conclusions and Resolution of the ECMT Council of Ministers in 2001, as well as in the Declaration on transport infrastructure planning in a wider Europe, of 2004.

Current reforms focus on the following objectives:

- National transport infrastructure planning processes should try to limit the risk of long-run transport investment decisions being subjugated to short-run considerations of public finance. National experiences suggest that in cases where comprehensive transport infrastructure planning systems have been established, annual investment levels tend to be less volatile and higher.

- National transport infrastructure plans have a greater political impact the more they are integrated with long-term plans for other policy areas. This holds in particular for land-use planning and territorial development as well as for strategic environmental plans.

- The political weight of national transport infrastructure investment plans is strongly increased if the plans are multi-modal and, where modal shift is an objective, incorporate an analysis of the costs and benefits involved. Such an analysis must include the relative advantages and disadvantages of the different modes with respect to achieving environmental objectives, including forecasts of technological developments. Concretely, this requires a careful examination of assumptions about the evolution of the relative economic and environmental performance of the different modes. In some countries where national plans were traditionally developed for individual modes, these have been substituted by multi-modal plans, as, for example, in France.

- To be effective, national transport infrastructure investment planning should not be understood as a technical or technocratic process. The acceptability of the planning results and subsequent implementation depend on a transparent public debate on the costs and benefits of the transport infrastructure policy, including the environmental and distributional side-effects. Formal procedures of public consultation have recently been introduced in many member countries. The accommodation of demands in such a process must aim at balancing benefits granted to special groups with the costs to be borne by those groups. Formal processes of consultation with stakeholders have, for example, been introduced in the United Kingdom, Germany and the Netherlands.

- The ex-post evaluation of past planning and implementation cycles can allow for an evolutionary improvement of national transport infrastructure planning systems. A regular ex-post evaluation has been introduced into the French planning process in some countries (France, UK) and is increasingly used by the International Financial Institutions (IFIs) also.

- Finally, the planning systems themselves have to pass the test of effectiveness. Given the potentially high costs of the planning processes, they have to be scaled to their function. The updating of long-term plans should, for example, employ fewer resources than the development of a long-term strategic plan.

2. INSTITUTIONAL ASPECTS

In addition to opening the planning process to political debate, involving stakeholders and the public at large, institutional changes in member and associate countries mainly concern the participation of the different layers of government in national planning, at federal or community level for example.

Where such institutional changes have taken place it aims at greater decentralisation of transport planning and policymaking. Decentralisation can include transfers of planning competencies, the right to decide on transport infrastructure spending with or without the right to raise local taxes. The reform processes that have taken place differ widely in these respects: in some cases decentralisation has involved a top-down approach, where broad national plans are complemented by more detailed plans at the local level. At the other end of the spectrum, low-level jurisdictions receive the right to propose projects, which are aggregated to infrastructure investment plans at the higher jurisdictional level. There are two critical issues here:

- First, decentralisation is inevitably associated with a basic trade-off: The transfer of planning and policy competencies to lower-level jurisdictions offers the advantage of exploiting detailed local knowledge. Moreover, in many cases, the more direct stakeholder involvement eases the political process. On the other hand, most transport infrastructure investment projects also imply costs and benefits for the populations of other jurisdictions whose interests tend to be under-represented in local planning processes. Moreover, for projects of more than local importance, a strong involvement by local interests can slow down the planning process substantially due to frequent "not in my backyard" conflicts.

- Second, decentralisation requires a fiscal structure which supports the achievement of overall planning objectives: the decentralisation of transport infrastructure planning to lower-level jurisdictions, including a material influence on decision-making, without an adequate sharing of the burden of finance often leads to an overestimation of infrastructure needs. In some cases lower levels of government have had a strong influence on project proposals, which, when accepted, were financed by the central government. Some of these investment decisions have been distorted by political conflict between jurisdictions and a bargaining process to find a compromise between local demands and central resources. In some cases, the bargaining process lost its focus on overall transport infrastructure policy objectives.

In conclusion, while decentralisation may lead to a greater political accountability at the local level, the strong interjurisdictional spillovers that are associated with most local transport infrastructure projects require mechanisms to ensure the co-operation of lower-level jurisdictions. Such mechanisms require a fair assignment of fiscal entitlements and obligations. Co-ordination mechanisms are required for all levels of a hierarchy of jurisdictions, from the community to the international level. A consistent framework at upper level is required.

3. PLANNING AND EVALUATION METHODS

In principle, national systems of transport infrastructure planning have to be built on the same basic rationale as any other investment decision. The allocation of funds, labour and physical resources to (capital) goods like infrastructure, which reduces present consumption, should at least lead to benefits in the future which compensate for the present loss. However,

several factors complicate investment analyses as part of national transport infrastructure planning. First, not all costs and benefits of transport infrastructure investment projects can easily be expressed in monetary terms. Second, costs and benefits might accrue to different parties with drastically different income opportunities and an equal weighting of the interests of these groups is perceived to be unfair. Third, transport infrastructure investment projects or policies lead to structural changes in regional and national economies.

There is broad agreement that the basic evaluation method for setting up national investment plans or deciding on investment projects should be a cost-benefit analysis.

- Cost-benefit analysis proceeds from the basic value judgement that the economic consequences of infrastructure policies for the individuals affected should be summed, discounted and compared to net present values of alternative projects or policies. The methodology postulates that all effects, even if they are non-monetary, should be expressed in monetary terms. Transport infrastructure investment projects abound with such non-monetary effects, like increases in air pollution, changes in accident and injury rates, time savings, etc. Due to technical difficulties of translating these into monetary values, ethical considerations (evaluating life, for example) or the prohibitive costs of doing so, the demanding principles of CBA have been weakened in applied work. In these cases, multi-criteria-analyses have been adopted, complementing the CBA by qualitative evaluations of non-monetary effects.

- A second complication of CBA relative to a standard investment analysis is based on the fact that distributional objectives (in particular in the geographical dimension) are at least as important politically as the objective of economic efficiency. The postulate that political decision makers should quantify distributional objectives by group-specific weights to be part of the CBA has often proved impractical. In these cases, the contribution of transport infrastructure investment to the achievement of distributional objectives is included in a non-quantitative way. There is, for example, the formal requirement to include special chapters in French and German infrastructure planning documents on effects on disadvantaged groups.

- Major infrastructure programmes, of a scale that change location and settlement patterns and regional specialisation in industrial production, require planning and *ex ante* evaluation methods that go beyond a standard cost-benefit analysis. Pilot applications of these methods in the United Kingdom suggest net benefits 30% higher than indicated in a standard CBA. A parallel analysis in Germany came to a similar but less substantial quantitative result. The high costs of these studies will require decisions as to whether such analysis should be confined to a qualitative estimation of the effects.

If qualitative or political aspects are included in the investment studies as part of a multi-criteria analysis, the public should be able to verify how the considerations were included in the analysis. If criteria which are considered to be non-quantifiable lead to the acceptance of a project which would otherwise be rejected, the imputed subsidy, which is required to make the project viable, should be made explicit by comparing the multi-criteria or qualitative analysis with a CBA that contains all quantifiable effects. Such a procedure would, in particular, highlight the relative importance of non-monetised returns in appraising railway investment projects.

4. INFRASTRUCTURE FINANCING AND PRICING

Cost-benefit analyses do not, in principle, depend on an analysis of how transport infrastructure is financed, unless the cost of public funds is greater than that of private funds. A positive net present value for a transport infrastructure programme or project indicates that an increase in taxes in order to fund the project would nevertheless result in an overall increase in incomes. However, the objective of transferring the financing and operating of transport infrastructure to the private sector has led to modifications of national systems of transport infrastructure planning and implementation, primary examples being Spain and Italy. Proceeding from the objective of attracting private capital, transport infrastructure planning becomes closely linked to the introduction of user charges. Moreover, it has an impact on the discussion of which pricing policies should be applied.

In principle, only marginal social cost pricing can ensure the economic efficiency of transport infrastructure provision. The returns from social marginal cost pricing can, however, fall short of the costs of the provision of infrastructure. A higher degree of cost recovery by other pricing rules is associated with the disadvantage of a sub-optimal use of the existing stock of transport infrastructure, and negative distributional consequences, particularly for regions with a relatively low population density. To cover full costs, marginal cost pricing therefore might require an additional fixed charge, in the form of a (private) fee or a (public) tax. If infrastructure service providers enjoy monopolistic powers, the absence of restrictions on fixed charges or fiscal transfers may substantially reduce efforts to minimize costs, optimise maintenance expenditures and to adopt new technologies. Regulatory measures then have to be introduced to guide service providers to make efforts to reduce costs.

Private financing and operation of new infrastructure raises the issue of risk sharing between public agencies and private investors. Contracts between government authorities and private investors should protect the latter from political risks, which would charge private investors with incalculable risks about future business conditions. On the other hand, economic risks have to be borne by the private investors. Any prospect of soft budget constraints are likely to lead to the result that privatisation simply transfers current fiscal problems to the future.
