

TRANSPORT POLICY VERSUS SUSTAINABLE DEVELOPMENT

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Abstract: At the level of Europe and in the context of main Common Transport Policy guidelines, fundamental researches have been carried out with the aim of valorisation of the amount of external costs. More precise valorisation of external costs from the aspect of transport policy is a premise of more realistic determination of relations between revenues and expenses of the transport sector. However, for the implementation of the sustainable development concept, the current knowledge about the quality dimension of transport is sufficient, as well as approximate values of uncovered external costs. Economic evaluation of external transport costs should be in the function of a political regime of the transport system reforms and more effective transport policy. Achievement of the strategic objectives of transport development, depend on cross-sector interfaces in policy making.

Paper deals with main issues of transport external costs assessment for European Union as well as CEI transition countries, EU White Papers conclusions on Common Transport Policy and transport policy areas kaleidoscope related to sustainability achievement.

Keywords: transport policy, sustainable development, external costs of transport, strategic planning

1. Introduction

The economic and social benefits of transport industry are doubtless. At the European Union level the transport sector participates with a share of about seven percent in the gross domestic product, with about seven percent in the employment, 40 percent of investments are related directly or indirectly to the transport sector, also 30 percent of energy consumption, etc. The negative aspects of transport, however, regarding accidents, pollution and congestion have managed to exceed or to reach the level of positive effects. These transport caused social costs that have not been internalised in transport sector but are compensated for from other public sectors or community, are articulated in the notion of external costs. Recent studies have brought, unfortunately, the estimate of the external costs of transport in the amount of about eight percent of the gross domestic product for 15 EU countries, i.e. fourteen percent of the gross domestic product for the transition countries of the Central European Initiative. Considering that the road transport has a share of more than 90 percent in the generation of external costs, consequently the strategic guidelines of further transport development are no longer based on the demand-orientation, but rather on goal-orientation i.e. targeted induction of the desired transport demand.

The regional approach to regulatory harmonisation, infrastructure planning and

management in the transport sector, contributes to faster implementation of the instruments of Common Transport Policy with a vision of modelling the integrated trans-European transport network. In this sense the subsidiary objectives of sustainable development of the transport system are articulated in the notions of environmental balance, integrity and interoperability.

2. European Union Transport Policy

Background

Transport development has always corresponded to the economic growth and social and political status of the community. Historically, there have been on the whole four revolutionary periods in the transport development most closely related to the economic transitions of the Western Europe [1]:

- the Hanseatic period, from 13th to 16th century, which saw the development of waterways;
- the Golden Era of 16th and 17th centuries, with marked development of sea transport;
- Industrial revolution from the mid-19th century when the invention of steam engine generated new transport modes, primarily the railway;
- Information technology revolution, which marked the second half of the 20th century by introducing marketing and logistic principles into the transport sector.

Regarding the growth rate indicators of certain transport modes, the theoreticians mark the actual status of the transport development by the so-called fifth transport revolution i.e. the period of personalization and individualization of transport, a trend which does not parry the principles of sustainability.

The European Commission White Paper from 1992 formulated the Common Transport Policy of the European Union. Assessing the negative impact of the previous unbalanced transport development, based exclusively on the spontaneous demand criteria, the approach of intermodality i.e. planning an integrated transport system, has been applied in setting the objectives of the EU Common Transport Policy. These objectives can be generalised as follows:

- forming of a Trans-European network,
- fair pricing in transport,
- environmental protection,
- transport safety,
- social cohesion,
- stronger internal market, and
- stronger external dimension of a single market.

In 1995 the European Commission accepted the action programme of transport development up to the year 2000, which more or less successfully provided the basis to all the strategic development objectives of the EU transport sector. Despite significant advances were achieved, a problematic field refers to the issue of infrastructure pricing and the external costs internalisation.[2] The European Commission has therefore accepted the White Paper about a phase-approach to the concept of pricing for the common transport infrastructure in the European Union.[3]

Transport industry plays an important role in the European Union. Transport demand has marked a constant increase in the last twenty years at a rate of 2.3 percent in cargo traffic, and 3.1 percent in passenger traffic. Single market would mark a turning point in the common transport policy of the European Union and it would result in liberalisation of the transport sector, still taking into consideration certain social, economic and physical restrictions.

In spite of declared readiness by EU members, the implementation of guidelines of the Common Transport Policy regarding investment policy at national levels has not been realised (excluding the 14 Essen TEN projects), so that the investment structure is 65 percent in roads, 25 percent in railways and 10 percent in other branches (1999).[4]

About 10 percent of the EU road network suffers from daily congestion, about 20 percent of railway network are described as bottlenecks, 16 main international airports report delays of more than 15 minutes on 30 percent of flights and consequently extra fuel consumption of 6 percent of the total annual consumption.

A recent research estimated the external costs (exclusive congestion costs) for the EU countries plus

Switzerland and Norway to be on an average 7.8 percent of their total GDP [5]. This amount is doubled in relation with earlier estimation noted in the 1992 White Paper. Accidents and environmental categories participate with different shares in the total external costs: 30 percent climate change, 27 percent air pollution, 24 percent accidents, 7 percent noise, 3 percent nature and landscape, 2 percent additional costs in urban areas and 7 percent additional costs from up-and downstream processes. Indicative according to the study results is the segmentation of external costs per transport modes.

Road transport causing 83.7 percent of total external costs, air transport 14 percent, railway transport 1.9 percent and water transport 0.4 percent. Two thirds of external costs are caused by passenger transport, and one third is caused by cargo transport. Together with congestion costs, external transport related costs amount approximate 10 percent of GDP.

Therefore, there is a requirement for a more consistent approach to the planned development goals, especially in the context of EU enlargement and the threatening growth of traffic demand. The new White Paper of the European Commission [6] proposes a package of 60 specific measures of the transport policy as instruments to implement the principal guidelines of railway revitalisation, quality improvement in road transport sector, promotion of water transport, intermodality achievement, Trans-European transport network upgrading, safety improvement, effective infrastructure charging, users' rights and obligations, high quality urban transport, functional R&T, globalisation effects management and environmental objectives for sustainable transport system.

The two main strategic directions are actualised with aim to enforce sustainability targets within Common Transport Policy of European Union:

- Kyoto protocol provision on reduction of eight percent of CO₂ pollution between 2008 and 2012 with respect to 1990 status;
- Green Paper [7] provision on substitution of 20 percent conventional oil consumption with alternative fuels.

Without transport policy intervention actual transport volume growth trend in European Union indicated CO₂ pollution increase by 40 percent till 2010 with respect to 1990.

3. CEI Transport Policy Background

While developed countries in Western Europe are redefining their national policies of transport development towards stimulating demand for environmentally friendlier transport modes [8] i.e. reducing the demand for road motor transport, and while they are introducing instruments of various operative restrictions in roads usage in order to compensate the external costs, national plans of transport development in transition countries of

Central and Eastern Europe, focus precisely on investments into road transport infrastructure. The transport policy in most of the transition countries:

- shows inconsistency and fragmentation by transport branches;
- has no clear development concepts at the system level;
- has no comprehensive objectives and consideration of real conditions;
- is exclusively based on financial sources of public sector (government budget).

There is a lack of inter-departmental co-operation and co-ordination of regulative measures in the key issues, primarily of the legal, tax and social politics, as well as a lack of solving critical issues of:

- restructuring the unprofitable state companies in the transport sector,
- irrational management of transport infrastructure,
- absence of equal market conditions for all transport branches,
- failure to apply the principles of traffic management by demand induction,
- failure to determine the external transport costs (and failure to undertake any reduction measures),
- failure to use the scientific potential.

In 1997 the ECMT Declaration "Towards Sustainable Transport in the CEI Countries" recognised the strategic position of the region as a transport connection of Europe with the huge potential of traffic growth, especially road traffic and the respective environmental impact.

Therefore, the pilot study "Environmentally Sustainable Transport in the CEI Countries in Transition" was initiated under the auspices of the UNEP/OECD, with the aim of studying future transport options in compliance with the requirements of sustainable development.

The research results and first estimates of external costs of transport (exclusive congestion costs) in this region at an average value of 14 percent of GDP [9] represent an alarming indication of the need for a more systemic approach to transport development planning i.e. radical shift from the "demand-oriented" to "target-oriented" planning. This need is also stressed by the trend of the economic growth of this region at a rate of 3 to 5 percent. About half of the external transport costs refer to accident costs. The air pollution costs are second indicative category with share more than 40 percent. Road transport caused 87 percent of total external costs.

4. Concept of Strategic Transport Planning

Problem issue of strategic transport planning is closely connected with insufficient sector's co-ordination within state administration and executive function delegated to bottom level. This is indicative weakness both for policy making in developed EU

countries and transition countries. In 2002 OECD initiated MONIT (Monitoring horizontal innovation policy) project aimed to consider relationship between innovation policy and four policy areas – regional development, ITC, transport and sustainable development. With regard to limitations of single goal policy making, the prerogative of co-ordinate and coherent policy is horizontal approach with cross-sector interfaces.

According to the assumptions of EU common transport policy, as well as the ECMT strategy of sustainable transport development, the main guidelines of complementary transport policy should be:

- target planning and managing of traffic flows,
- reduction of the harmful influence of transport on the environment,
- improved transport safety,
- increased efficiency of transport system,
- compensation for consequences of deregulation and liberalisation of the transport market.

Some of mentioned guidelines, especially those related to environmental protection, seem to be insensitive to the criteria of satisfying the real transport demand, but in the long run they ensure optimal integration of transport sector into the national and international frames of progressive economic development.

Economic justification of implementing the planned goals of transport policy is based on the estimate of the amount of external transport costs, which is in transition countries, due to the low quality transport system, almost doubled than the average at the EU level.

Realisation of transport policy goals assumes consistent co-operation of transport and other government departments in order to ensure the efficiency of transport policy instruments in the key aspects:

- regulative policy,
- transport management,
- investment policy,
- tax policy and price policy,
- physical/urban planning,
- social policy.

Apart from capital investments in environmentally friendly transport infrastructure, the transport policy at the national level can additionally stimulate these transport modes by various mechanisms - e.g. by subsidising and through benefits, but also by higher taxes on road vehicles, which is a significant method of compensation for external costs of road transport, and by expansion of the toll charging and higher tolls on road infrastructure. With regards to undesired trend of "automobile booming", transport policy has to show special sensitivity for solving the issues of urban transport management, so that mixed instruments in

co-operation with health, social and other departments should primarily influence the following:

- shift of transport demand from individual to public and non-road transport modes, and
- prevention of superfluous traffic by reducing travel distances, by using information and communication technologies, and especially for the reduction of peak loads.

The accompanying measures of implementing the mentioned guidelines refer to:

- preparation of the expanded plans (and financing) for public passenger transit;
- promotion of ecologically friendly transport modes, mainly walking and cycling, as well as at the same time healthier transport modes;
- programme of restrictions in using motor vehicles in the urban area;
- programme of integral adaptation of transport infrastructure and public transit means to the needs of the enabled persons and senior users.

Strategic planning of the transport development has to be in the function of the overall economic development and dynamically adapted to objective investment possibilities of the public sector. The conceptual approach should not be nationally restricted here, but should be in the context of the development of a wider region instead. The planning means a systemic preparation of decisions, and the strategic attribute represents the following characteristics:

- long-term planning,
- comprehensiveness – wider physical scope,
- manageability at the network level,
- applicability of all transport modes,
- focus on comprehensive objectives of greatest interest for the community.

Strategic transport planning includes determining the versions of mobility level and defining generated and attracted traffic flows, as well as determining the method in which transport demand is met. Besides, the problems at the operational level (bottlenecks, congestion at state border crossings, insufficient connections) can be extremely important in strategic planning, if they reduce the efficiency of the network as a whole.

The government is responsible for the strategic transport policy, and this has been justified not only by the long tradition of being responsible, but also by the possibility of market inadequacy under the conditions of infrastructure management on the commercial or private ownership basis.

The premise of the strategic transport planning is the satisfaction of individual mobility, increasing the efficiency of transport system and the regional integration in the wider transport network.

The previous approach to planning is characterised by the focus on meeting the

spontaneous, too often hypertrophied transport demand. The latter uses the implementation of transport policy instruments to affect also the adaptation and even reduction of transport needs, in accordance with the objectives of transport development which have been more or less adapted to flow tendencies. Such approach is possible only under the assumption that meeting individual transport needs is not the primary criterion of optimisation, i.e. that transport infrastructure does have its negative features.

Negative effects of transport infrastructure have been observed mainly in the field of environmental protection, and gradually the term “sustainable development” has become common in transport planning. In principle, the elimination of negative transport effects is not the basis of strategic transport planning, but is inherent to the general governing system leading to internalisation of external costs, thus logically not avoiding the planning sectors either. In this sense, an attempt can be seen in practice, that planning policy involves forecasts based on the “desired” flow demand, i.e. “desired” transport modal split.

The efficiency of transport system is an extremely important element in strategic planning, distinguishing two groups of indicators – quality and productivity on one side and allocation and ecological dimensioning on the other.

Mobility which does not satisfy the additional requirements of allocation and ecological efficiency, i.e. which does not fully cover the external (social) costs may be characterised as being inefficient.

Each form of mobility improves the competitiveness among regions and local communities, their production and manufacturers. This results in turn in economic growth and physical expansion, i.e. infrastructure integration. Physical interaction does not necessarily reflect also the optimal transport situation, so that in strategic transport planning, the goal-oriented approach in accordance with the physical development policy is justified. The key indicator for the evaluation of infrastructure contribution in the integration process is the availability, and the connections of regional networks are of crucial importance here. The planning principle is based on a clearly defined correlation between the accessibility of a region and the induced growth effects.

5. Conclusion

Transport is in its nature global, and the result of a very widespread and complex interaction between governments, manufacturers, operators, procedures and technical systems (hardware and software), and as a system it has to comply with the international standards and uniform practice.

The development of the transport system, including the branch development, is planned as a long-term process regardless of the complexity of

criteria that influence its optimisation, complex procedures of harmonising conditions and interests, relatively long deadlines to realise the plans, substantial capital investments into infrastructure and transportation capacities and the duration of effects of the realised investment ventures.

Strategic planning, which includes valorisation of the system and identification of relevant elements of the transport policy, is the starting point in adopting the development guidelines and decision-making in the bodies of executive authorities. This continuous process unconditionally imposes the need for co-operation at all governing levels – parliament, government, ministries, executive authorities, as well as economy and science and the wide consensus in adopting the basic elements of development strategy.

The conceptual assumptions of transport strategic planning should be based both on the global and on the European regulatory context of transport development, best practice at national levels, and on recognising the specific features of the local and regional environment. The elements of strategic transport planning include key aspects of transport policy: institutional and legal framework, infrastructure, and management of transport operative as well as personnel resources.

Negative experiences and damaging consequences of conventional transport planning indicate the need for a more radical target-oriented approach in conceiving the transport strategy, mainly regarding the following:

- emphasis on the state of the art analysis, with precise identification of real problems and by delegating their causes, and neglect of the historical dimension;
- development of infrastructure based on long-term targets (induction of demand), and not on the forecasts of the trends in transport demand in the conditions of uncontrolled development;
- emphasis on the international (integrative) dimension of the transport system;
- adoption of conceptual principles: overall interests at the government, rather than local level, transport planning at the level of the system, rather than branches, sector analysis, integration and intermodality.

By the measures of the government policy, it is necessary to introduce adequate models of the tax policy and the pricing policy, supporting the implementation of the strategic goals of the progressive development of railway, water, combined and urban public transport, and the restrictive ones for the uncontrolled development of road transport. For the implementation of the strategic guidelines of the transport development, the legal instruments should primarily solve the following:

- fair determination of the costs of infrastructure usage (internalization of external costs),
- commercialization / privatization of the service providers,
- insuring the competitiveness of the operators,
- preventing monopoly,
- tax and pricing policy in compliance with the strategic goals of the sustainable development of the transport system on the principle of integrity and intermodality,
- involving of the private sector in the investment programs of the transport infrastructure.

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