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TRAFFIC SYSTEM MANAGEMENT BY MEANS OF TRAFFIC POLICY IMPLEMENTATION

ABSTRACT

As an active relation of the government towards the traffic system the traffic policy represents a correction measure of market regulation of the relations within the traffic system and the relation of the traffic system with the environment due to the imperfection of the traffic market. Consistent traffic policy, as part of the economic policy, assumes a clear definition of the traffic policy goals, measures, and instruments as well as task managers to realise the set goals. These are the preconditions for successful implementation of the traffic policy.

KEY WORDS

traffic system, traffic policy, system management

1. DEFINING AND FORMULATING THE TRAFFIC POLICY

The traffic system and single traffic branches are extremely important areas of interest of every society, i.e. country. This interest is the result of the irreplaceable role and significance of the traffic system for the overall functioning of the social, political and economic life of every country. The interest shown by the government towards the traffic system is not a passive one of just observing how the traffic system is functioning. This relation is rather marked by the active role of the government not only in relation to its functioning but also to the development of the traffic system and single traffic branches, thus constantly influencing the design of a specific structure of the traffic system. The traffic system is not a simple sum of traffic branches, and therefore an adequate structure of the traffic system cannot be established by realising single, uncoordinated goals in single traffic branches. On the contrary, optimal structuring of the traffic system in the form of constant realisation of its basic economic tasks, as part of reproduction, assumes that there is a double coordinated action of the traffic system, that is:

- 1. coordinated action of single elements and the subsystems within the traffic system,
- 2. coordinated action of the traffic system with the environment (economic system, economic policy, etc.).

The active role of the government towards the structuring and functioning of the traffic system necessarily assumes that traffic has its place in all the segments of the development and current economic policy and that its specific features in general are respected as well as the specific features of single traffic branches in defining the measures and instruments of the economic policy.

The question is – how is the traffic policy defined? May we say that the traffic policy means an active role of the government towards the structuring and functioning of the traffic system; can traffic policy maybe be defined as the policy of the government in relation to the traffic system?

First, it should be noted that there are two approaches singled out in considering the traffic policy:

The first approach which defines the traffic policy as part of the economic policy, and the second one which defines the traffic policy as a separate policy.

In considering the traffic policy, we should start from the interest and active role of the government in relation to the traffic system, which are directed towards providing the conditions for coordinated action of the traffic system from two aspects:

- first, for co-ordinated action of elements and subsystems within the traffic system, and
- second, for coordinated action of the overall traffic system with its environment.

The coordinated action of elements and sub-systems within the traffic system means such structure and functioning of the traffic system which will insure coordinated action of the traffic system with its envi-

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ronment regarding realisation of goals that are required of the traffic system. The basic sense of structuring and functioning of the traffic system lies in its co-ordinated interaction with the environment, because if this were not so, then it might be concluded that the traffic system is an end in itself, and that would not be acceptable nor correct.

In order to insure these interests by the active role of the country in relation to the traffic system, the understanding and then also the defining of the traffic policy should be based on the following starting points:

- 1. Traffic policy should absolutely define the goals that have to be realised in certain traffic branches and in the overall traffic system, i.e. goals that are required of single traffic branches and of the traffic system as a whole. The goals have to be:
 - a) scientifically determined,
 - b) mutually co-ordinated,
 - c) time-defined,
 - d) realistically feasible.
- 2. A constitutive element of the traffic policy are also certain efficient instruments, that is, means and measures that guarantee successful realisation of the traffic policy goals. The means, measures and instruments of the traffic policy have to match the concrete economic system.
- 3. The traffic policy should define the subjects i.e. managers, which means both those whose task it is to realise certain goals and those whose task it is to accept certain measures and instruments. In accordance with this requirement, traffic policy subjects include:
 - a) decision-makers of economic activities in the field of traffic, such as certain companies in certain traffic branches,
 - b) decision-makers of economic activities directly related to the field of traffic, such as the authorities in charge of the traffic business, business associations of single traffic branches, professional societies of the chambers of commerce, scientific and research, scientific and education and other institutions, whose activity is related to the realisation of specific functions of traffic, etc.
 - c) economic and legal subjects outside the field of traffic whose legal and legislative, economic and systemic and economic and political and other instruments significantly influence the realisation of traffic policy goals, either in the positive or in the negative sense.

The right scope of the traffic policy decision-makers is not just a theoretical issue but first of all a problem of succeeding in the realisation of the policy goals. If the significant economic policy decision-makers are outside this scope, and even if they do not consider themselves as decision-makers of that segment of activity which is related to traffic, then there is great probability that the traffic policy goals are not going to be implemented successfully.

Therefore, the traffic policy, as an overall relation of the government towards the traffic system, is a consistent interrelation of goals, instruments and task managers, which should insure such a structure and functioning of the traffic system that will make it possible for the traffic system to permanently and successfully realise the role that it plays as part of the economy.

The two important aspects of the traffic policy refer to the territory and time.

Since the traffic system is territorially defined, the traffic policy reflects the active relation of the government towards the traffic policy of the whole country and lower and administrative and territorial units. The level of concreteness of documents that form the traffic policy is inversely proportionate to the size of the area they cover. Of course, all the lower territorial and political communities do not have to have their own documents on the traffic policy if the traffic policy of the higher level of territorial and political community has taken into consideration all their characteristics and the specific needs. If, however, there are documents on the traffic policy of territorial and political communities of different levels, then a vertical coordination of these documents should be achieved, in particular of the goals, measures and instruments. The development and current plans, particularly of the decision-makers of economic activities in the field of traffic, which represent single segments of the traffic policy, have to be coordinated with the documents of the respective territorial and political communities.

Regarding time definition of the traffic policy, it is natural that intervals of time have to be determined in which single goals are to be realised.

The question is now asked again – is traffic policy an integral part of the economic activity or a policy on its own?

One should start here from the fact that the economic policy of a country means the overall activity of a country in the economy, that it is especially oriented towards planning and realisation of the economic development and therefore represents an important environment for the traffic system. In order to have a consistent economic policy, that is, consistency in the sense of coordination between the government and the economic development of the country, in general, and towards single aspects of this development, it has to determine precisely the goals, methods and means of the task managers.

If, then, within the frame of economic policy, i.e. within the part of it which indicates the goals and mea-

sures for the realisation of the development and current economic and political goals, that part of policy can be identified which refers to traffic, then, provided the relation between goals, measures and decision-makers is consistent, we might speak of the existence of the relations of the government i.e. economic policy towards traffic. This would mean that the traffic policy is an integral part of every economic policy. Since, however, planning is the method of determining and formulating, and at the same time it means the method and the means of the economic policy, the active relation of the government towards the traffic system is primarily reflected in the development plans and planning activities, which are the most significant method and means of economic policy.

Having concluded that the traffic policy is an integral part of every economic policy, then this does not mean that the relation of the government and economic policy itself towards the traffic system does not need to be emphasised. The traffic policy can, namely, be expressed as part of the economic policy also explicitly, by a special document. From the aspect of goals, instruments and traffic policy decision-makers, priority certainly needs to be given to the explicit formulation of the traffic policy.

Formulating of the traffic policy, especially if it is expressed by means of a special document or documents, regardless of which territorial and political community it refers to, means a certain activity of subjects, i.e. the managers of individual tasks.

This whole activity can be divided into:

- 1. activities of preparing documents about the traffic policy,
- activities of adopting documents on the traffic policy,
- 3. activities of realising the traffic policy.
- 1. Activities of preparing documents on traffic policy include:
- a) formulating of the theoretical approach to the problem of the place and role of traffic in the process of reproduction, which, of course, does not have to be done in every single case if such a standpoint exists. It is, however, very important in defining of the measures and instruments, especially for the defining of the system and the price policy and to insure the means for financing the construction of the traffic infrastructure facilities. The formulating of the theoretical approach to the issue of traffic policy includes also the determining of the principles that will provide the basis of the traffic policy,
 - b) production of scientific reports and statistical and documentation materials,
 - c) production of an adequate document, i.e. documents, which consistently define the goals,

instruments (means and measures) and the subjects of the traffic policy.

- 2. Activities of adopting i.e. accepting the documents on the traffic policy include:
 - a) professional and public discussion on the proposed documents,
 - b) scientific and professional verification of the offered solutions,
 - c) adopting, that is, accepting of coordinated documents with clearly defined goals, instruments and subjects of the traffic policy.
- 3. Activities of realising the traffic policy include:
 - a) determining of the activities program with clearly defined authorities and tasks of single subjects and the time of realising certain measures and instruments or for realising single goals.
 - b) analysis of the performed tasks during the realisation of the traffic policy.

2. DETERMINING THE TRAFFIC POLICY GOALS

The goals of the traffic policy are one of the three constitutive elements of the traffic policy and certainly its primary i.e. basic concept. When defining the traffic policy, we would say that the goals that are to be realised in certain traffic branches and in the overall traffic system have to be scientifically determined, co-ordinated, defined in time and genuinely feasible. The selection and determining of the goals is the most complex procedure in formulating a traffic policy. It is not just a really complicated methodological problem and a great scientific challenge, but the selection of strategic development routes of the traffic system and its single branches, which are formulated as the goals of the concrete traffic policy, represent a serious economic and political issue.

We will first focus on the methodological complexity of the problem.

If we have concluded that the goals of the traffic policy should be scientifically determined, then this means that scientific research should first determine the basic assumptions of the possible routes and dynamics of the development of certain traffic branches such as:

- a) the level of technological, organisational and economic development of single traffic branches and the whole traffic system of the region for which the traffic policy is being determined, and the assessment of the development from the viewpoint of the reached general level of technological and economic development,
- b) the volume, structure and specific characteristics of the traffic demand that should be satisfied by the

supply of capacities of single traffic branches and the traffic system in general, as a function of the overall economic development,

c) general economic possibilities of the country, and especially the possibilities of a government for new investments into the traffic system in general and into single traffic branches in particular.

When the basic assumptions are determined, the scientific research should offer a selection of the possible versions of the traffic system development concept, i.e. a selection of the traffic policy goals, the realisation of which will provide such structure and functioning of the traffic system that will provide traffic supply adequate to the volume and structure of the traffic demand, on the one hand, and be adequate to the overall economic capabilities of the country, on the other.

The selection of the traffic policy goals, as already said, is a serious economic and political issue. The traffic system influences the overall economic development, the territorial distribution of work, the development of underdeveloped areas, the development of industry and tourism.

Therefore, it is clear that the whole economic development of a region depends on the determined traffic policy goals, depending on which the development and changes in the structure of the traffic system will proceed.

The traffic policy goals can be otherwise defined and evaluated from the point of view of:

- a) transport companies,
- b) traffic service users,
- c) government.

Such classification of the traffic policy goals has its basis in satisfying the interests provided by the development of the traffic system for each of these groups of subjects.

From the point of view of the transport companies that act as economic subjects, the traffic policy goals objectively determine the choice of the goals of their business policy, so that the economic activity decision-makers in traffic are primarily interested in using a certain traffic policy in order to provide conditions for normal economic business and operation under the equal economic conditions. Therefore, their interest is directed towards the choice and determining of those traffic policy goals that will:

 insure the means for investments into transport capacities and traffic infrastructure facilities from their own accumulation, from non-repayable or credit funds of the budget or development funds, as well as from bank and other resources, depending on the decision brought by the government about financing method of the reproduction of the traffic infrastructure in single traffic branches. insure the conditions also by secondary distribution of the social gross product in order to realise the necessary revenue that will enable normal reproduction of their funds.

From the point of view of the traffic service users, both in the passenger and in the cargo transport and also in the postal traffic, out of the goals of the traffic policy that should insure satisfying of their interests, those may be highlighted that will:

- insure the conditions for high-quality satisfaction of the users' needs regarding adequate safety, comfort, regularity and speed of services,
- 2) insure the conditions for supplying traffic services at acceptable prices.
- From the point of view of the government, the goals of the traffic policy are the most complex. Here are some:
- reduction of transport costs in the overall costs of the economy,
- maximal usage of traffic and geographical advantages of the country, i.e. some regions for which the traffic policy is being formulated,
- integration of traffic in the international division of labour and consequently, the improvement and development of transit traffic,
- 4) more complete and more successful meeting of the traffic demand of economy and the population,
- 5) insuring the optimal share of single traffic branches in the traffic system and single users in the traffic process from the point of view of energy usage and consumption, power supply sources and reduction in energy import,
- 6) insuring the development of the underdeveloped regions and areas by constructing adequate traffic infrastructure as a precondition for certain re-organisation and functioning of the traffic system,
- insuring development of traffic, i.e. traffic infrastructure on certain traffic routes and corridors,
- organising of the traffic system depending on the needs of the defence and protection system,
- undertaking measures to reduce the negative influence of the traffic system on the environment.

The analysis of single goals of the traffic policy has shown that some of them are in conflict. Thus, there is a conflict between the goals of the transport companies on the one hand, and users of the traffic services and the government, on the other. The requirement of the transport companies to insure a favourable position in the primary distribution, in practice turns into a mere request to raise the traffic service prices, which conflicts with the tendency of the traffic service users that one of the goals of the traffic policy should be the provision of traffic services at acceptable i.e. low prices and the goal highlighted by the government to reduce the transport costs in the overall costs of the

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economy. However, there is also a clash of interests within single groups of subjects. The traffic service users' requirements for improved quality of meeting their demands is in contrast with their requirement for low prices of those services. Similarly, the traffic policy goal which is often emphasised by the government as the primary goal, that is, reduction of transport costs in overall economy costs is in conflict with almost all the other goals.

Therefore, certain goals of the traffic policy have to be co-ordinated. This co-ordination is usually achieved through discussion and accepting of the document, i.e. documents which formulate the traffic policy or that define the relation between the government and the traffic system.

The co-ordination of goals means their formulation at the level of feasibility which is acceptable for different subjects and in compliance with the reality of implementation over a certain period of time.

3. CHOICE OF MEASURES FOR IMPLEMENTING THE DETERMINED GOALS OF THE TRAFFIC POLICY

The task of every policy is to establish such an organisation of the traffic system which will help realise the goals of the traffic policy or, in other words, to establish the optimal organisation of the traffic system in order to achieve the set goals of the traffic policy. Indeed, how can this be achieved?

The world experiences show that the concept of completely free competition in regulating the interbranch relationships is abandoned almost everywhere. Solutions are sought in respecting the market measures, but in the framework of a general policy of co-operation between single traffic branches. Therefore, theoretically, one can speak of either relationships where market is the general regulator, or about competition, or oriented relations where the development of single branches is co-ordinated, i.e. about co-ordination. The development co-ordination measures of single traffic branches and structuring of the traffic system differ from country to country and can be defined as:

- a) investment policy measures,
- b) tariff policy and price policy measures,
- c) commercial measures,
- d) fiscal measures,
- e) regulatory measures,
- f) measures of technical co-ordination.

The choice and determining of single measures has been treated separately for passengers, and separately for cargo transport, and separately for the infrastructure. When speaking of choosing the measures of co-ordination and development of single traffic branches and designing of an optimal structure of the traffic system depending on the goals of the traffic policy, then one should start from the characteristics and specific features of the traffic in general, and from the characteristics and the specific features of the traffic infrastructure. When considering long-term investments into fixed capacities, i.e. into traffic infrastructure, then, due to its imperfection, the traffic market cannot be a successful capital allocator. This means that the market itself is not able to insure the optimal development of the traffic infrastructure.

However, the problem does not only show during the selection of measures that refer to the traffic infrastructure, but also in the choice and defining of the whole series of other measures that need to insure the realisation of the traffic policy goals, regarding assessment of the success of their influence on the functioning of the traffic system, causing changes in its structure, quantifying their feedback influence, etc. In other words, the problem of choice and definition of adequate measures of the traffic policy is a much more complex one than might have seemed at the first glance. For instance, the fare corrections in rail traffic (as one of the measures that would realise a certain goal), apart from the shift in relations between the traffic system as a whole and other economic activities has more influence both vertically and horizontally in the traffic system. It is relatively easy to determine the effects of the price changes in the rail traffic on the business conditions of this branch, at least at first, until feedback of increased transport costs in the price of the goods are felt, which can be regarded as input for the railway. It is more difficult to determine the influence of the change in these prices on the relations between single traffic branches. Similar difficulties occur in the attempt of determining the influence of each measure separately.

This problem indicates that in defining the targets and measures of the traffic policy one should apply the inter-branch analysis and simulation of influences, maybe not of all, but at least of some of the determinants. This is, however, where the basic problem occurs, since the system of social accounts in our country today does not allow defining of an adequate traffic model matrix. However, it would be possible to apply some elements of the inter-branch or input-output analysis as well as to use other methods of quantitative analysis.

The choice of adequate measures of the traffic policy and the assessment of their influence are decisive for the success of realising the goals of the traffic policy. We could say that the success of the whole traffic policy depends precisely on the measures that are necessary to realise the goals. If the importance of these measures is underestimated, and in the process of determining the traffic policy their choice and definition is done in the "classical" way, i.e. more or less intuitively, and if they are determined subsequently by a whole number of other documents rather than one basic document on the traffic policy, then it will prove very difficult to realise such an organisation of the traffic system that will result in the implementation of the set traffic policy goals.

4. BASIC ASSUMPTIONS IN REALISING THE TRAFFIC POLICY

Although in the previous considerations of the traffic policy, apart from the issue of its definition and formulation and the problem of selecting the goals and measures to realise the set goals, the realisation of the traffic policy was indirectly discussed, due to great significance of the activities referring to the realisation of the formulated traffic policy, some of the basic assumptions or preconditions for its successful implementation will be briefly systematised here. These are:

- unity i.e. co-ordination of the traffic and economic policy,
- 2. unity, i.e. co-ordination of the scientific approach and the goals of the traffic policy,
- 3. unity, i.e. co-ordination of traffic policy goals,
- unity i.e. co-ordination of goals and measures of the traffic policy,
- 5. unity i.e. co-ordination of the activities of single traffic policy subjects.
- 1) Since traffic policy represents the integral part of the economic policy, regardless of whether it has been expressed by a separate document or not, the success of realising its goals depends on the level of its co-ordination with the economic policy. The principle question could be asked; is it possible for the traffic policy, as part of the economic policy, not to be co-ordinated with it. Since often traffic policy is not formulated at the same time as the economic policy, or at least not for the same period, it is really possible, both theoretically and practically, that some parts of the traffic and economic policy are not sufficiently co-ordinated. The co-ordination of the traffic and economic policy means that the goals are co-ordinated with goals, and measures with measures. Since acceptance of certain documents which formulate the traffic policy often means also the requirement to carry out certain corrections in goals and measures of the current economic policy, it is possible for these corrections either not to be completed on time or just partly.
- The problem and the need for a scientific choice of the direction of the traffic system development as

well as certain traffic branches have already been mentioned. At today's level of development of the economic and traffic sciences, on the one hand, and the level of development and complexity of the traffic system on the other hand, their role in the design of the scientific documents, especially for the choice of traffic policy goals cannot be neglected. The role of the scientific and research work in formulating the traffic policy cannot be replaced by any other methods or procedures, if successful realisation of the traffic policy is to be achieved. Scientific research will show what possible routes and dynamics of the traffic system development and development of single traffic branches exist, and how the traffic system of a certain region needs to be organised, what are the possibilities of realising certain goals, which single measures can influence the realisation of single goals, etc.

- 3) The co-ordinated goals of the traffic policy are required for its successful realisation. We have seen that many goals of the traffic policy oppose each other. If these goals are not co-ordinated sufficiently during the selection process and during the acceptance of the documents about the traffic policy, great difficulties will occur during the implementation of the traffic policy on the one hand, due to the possibility of being interpreted differently by single policy subjects, and on the other hand, in determining the place for the realisation of single goals.
- 4) The problem of pricing and the choice of the place of realising the set goals of the traffic policy have been mentioned in previous sections. We have found that the goals are the basic complex, and that the measures are decisive for the successful realisation of the traffic policy. For the successful realisation of the formulated traffic policy, i.e. its goals, it is of great importance to insure the harmony of the goals and measures in the sense in which the measures enable successful realisation of the single goals.
- 5) The task managers, that is, the subjects of the traffic policy are the one factor without which neither measures nor the goals can be defined or realised. Although the subjects of the economic activity in the area of traffic are known similarly as the managers of the non-economic activities are indirectly related to the field of traffic, which also represent the subjects of the traffic policy, the traffic policy needs to define clearly the tasks of certain subjects. It is especially important to clearly indicate the tasks of those economic and legal subjects outside the field of traffic, which, as already seen, significantly influence through their legal, legislative, economic and systemic, economic and political, and other instruments the realisation of the traffic

policy goals. Successful realisation of the traffic policy requires the defining of the program of activities and tasks of single subjects, thus co-ordinating also in time the tasks of single subjects with the aim of realising individual goals.

6. CONCLUSION

The connections within the traffic system itself, i.e. the structuring of the traffic system is a very complex theoretical and practical issue, and the size and complexity of this issue results from some specific features of the traffic as a complex dynamic system.

The traffic system management in the sense of establishing its optimal structure is carried out by co-ordinating the traffic supply and the traffic demand on the traffic market. However, the possibilities of the traffic market in this sense are limited since there are no essential preconditions for free competition because there is a lack of sufficient flexibility of both supply or demand. Therefore, the government acts as a market corrective, i.e. government regulates the supply and demand relation. This government regulation is carried out through economic and traffic policy.

The traffic policy represents the overall relation of the government towards the traffic system. It represents a consistent relation between the goals, instruments and task managers who require such structure and functioning of the traffic system enabling it to permanently and successfully play the respective role as part of the economy.

Therefore, in order to be able to speak about the consistent traffic policy, the government has to define and formulate the traffic policy, it has to determine its goals, it has to select the measures to implement these goals and it has to insure the basic assumptions for overall realisation and implementation of the traffic policy.

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SAŽETAK

UPRAVLJANJE PROMETNIM SUSTAVOM PROVO-ĐENJEM PROMETNE POLITIKE

Prometna politika kao aktivan odnos države prema prometnom sustavu predstavlja korektiv tržišnog reguliranja odnosa unutar prometnog sustava i odnosa prometnog sustava s okruženjem zbog nesavršenosti prometnog tržišta.

Konzistentna prometna politika, kao dio gospodarske politike, pretpostavlja jasno definiranje ciljeva prometne politike, mjera i instrumenata te nositelja zadataka za ostvarivanje postavljenih ciljeva. Ovo su preduvjeti za uspješno provođenje prometne politike.

KLJUČNE RIJEČI

prometni sustav, prometna politika, upravljanje sustavom

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