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Roads and quality of life

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ST 2: Priorities and procedures applied in the Czech Republic

SUMMARY

Transport road is an initiator of further economic, scientific and cultural development. This approach is quite common in the whole evolution of civilization. Transport belongs to the key sectors of national economy for two reasons. The classic one is the dependence of regional economic development on the quality of transport services. There is another reason today. Transport is the sector, where eventual foreign investments have so large extent that they basically influence the economic stability of the country. That is why it is necessary to prepare and promote with a maximum effort the transport projects going towards European interests, valorising the strategic location in the centre of the continent and being thus also in the interest of the Czech Republic.

Area planning is an instrument of complex assessment and qualified decision in the area on the basis of achieved agreement (compromise).

Area planning brings the stability of conditions for the use of the area, stability being an advantage for the localisation of investments (the rules and limitations are given, the potential of the area is obvious, the kind of connection to the technical and transport infrastructure is distinct).

It follows from gained experience that the existing procedure of decisions on the corridor of the transport route produces non-lucid process. A set of required individual assessments and expertises considers the problem in an isolate manner viewed by individual disciplines. Thus one view is promoted on the detriment of others. In the interest of objectivity of the whole process it is necessary to find such a procedure that enables to define, in the framework of the preparation of relevant area planning and its negotiations as precisely as possible, the real public interest and includes it into the area planning documentation.

Provided that the process of assessment of all impacts and parameters in their mutual relations has been made more lucid during the preparation of the new law on area planning and building construction, it would be easier to define the measure of public utility and more difficult to present some particular interests as the public ones.

A special committee called „Transport Forum“ has been established by the parliament of the CR in 1999 to assess in an objective manner the program of transport infrastructure construction. The independent studies carried out by Universities have been prepared for the discussions of the committee that proceeded with the participation of interested institutions and public initiatives. The arguments for the support of the construction of the transport infrastructure were presented, for example positive influence of the communications of high capacity on the development of the area, the increase of security and decrease of negative influences on the population (noise, emissions).

1. Transport as a stimulating factor of the development of the area

The assessment of the CR, prepared by European Commission to the demand of adhesion to EU, states that though the road network is acceptable by its length, it does not have enough motorways and high capacity roads. The road network is comparable with the states of EU from the point of density but not of quality, compatibility of the network and its technical state. Financial means allocated to the transport infrastructure lay for a long time behind volumes for construction recommended by EU that is 1.5 to 2 % of the GNP.

Low level of transport system limits the mobility of goods and persons, chokes the possibilities of domestic economic growth and creates the insurmountable barrier for the integration into the common market. The transfer to the EU transport standards is an important element of competitiveness and requires a pressure on the security, social and ecology.

A special position in the network of transport lines has a road transport that supports a major part of transport relations and volumes in passenger and goods transport in Czech and European economy. These facts supported on a long term by the forecast of expected further trend of growth, present themselves in increasing quantity and varying spatial orientation of the main and supplementary traffic flows. The road transport with its requirements needs still more urgently a connected network of the superior high capacity transport lines situated without collisions. These lines should be an integrated and active part of urbanised spaces having sensitively oriented, systematic and functional structure.

There is no doubt that the location, function and the level of the transport lines is closely related to the development and social-economic stabilisation of the area, it means the agglomerations, regions and their parts. The quality of the transport lines, traffic services, optimisation of their spatial distribution for possible assurance of effective and ecologically regardful services, transition, etc. expressively influence the production function of these spaces, in macro-space also a measure of possible integration into the European structures. The transport and transport lines have to be considered as a basic part of stabilising developing programs - piers of every area.

The main importance in the superior network of domestic and European transport roads play connected backbone systems of motorways and expressways. These transport lines assure in its function of transport-urban axes in densely urbanised areas not only long distance transport relations, but through properly located connective junctions to lower level transport systems also a superior spatial service and accessibility of given urbanised space. The basic problem in the course of the search of the corridor is the achievement of economic and operationally effective line and connected communication system in strict coordination and full accord with functional limits, conditions and requirements of highly urbanised area.

These corridors have primarily connection function in „free areas“ of sparsely urbanised territory with the predominant natural, landscape or agricultural function. The global effect of long distance transport road of high capacity can be assessed in such area as uneconomic, ecologically charging and disturbing natural and calm character of given territory, for which this transport road has only limited utilisation. The transit of the corridor in this area can be for certain interest groups absolutely undesirable.

The urban and planning preparation as well as transport and engineering preparation of these projects meets on one side requirements caused by the ever increasing mobility of the population, requirements on the transport distances shortening, on effective spatial resources and goals distribution and connected spatial roads localisation, on the position of junctions in the area, on the capacity and transport road equipment, exploitation economy investment costs, etc. On the other side, it is necessary to project and strictly co-ordinate all these requirements with all regional components, conditions, limits, spatial arrangement of the area, with the requirements of hygiene, interests of the environment protection of state and public administration, local self government, with different and sometimes hardly compatible interests of public, civic initiatives, ecological activists, etc.

We can specify on this simplified characteristics the basic problem circles that have to be identified in the course of the long term process of design, preparation and realisation of new routes of communications, to assess them in a complex way, co-ordinate and solve, eventually to look for new compromise proposals, compensating or protecting measures, non-standard solutions etc., in order to achieve mutual compatibility, agreement and stabilisation of given route.

The achievement of mutual compatibility, agreement on the global functional use and spatial arrangement of the area based on careful, complex and systematic preparation, including necessary effective prognosis is the substance of the area planning, whose goals and tasks are specified by the law on the area planning.

2. Area planning as an instrument of complex assessment and qualified decision in the area

Area planning permits according to the construction law to solve functional use of the area specifies principles of its organisation, co-ordinates construction and other activities that influence the development of the area. The area planning documentation creates suppositions for the achievement of mutual agreements a compatibility of all natural civilisation and cultural values in the area in consideration of the conservancy work and protection of the main components.

The prepared, negotiated and approved area plan at individual stages creates the suppositions for the balance, stability and development of given territory, specifies its legal frame. It determines transport corridors for superior transport routes on the level of area plans of large regions (AP LR) as constructions of public utility. These are respected and obligatory protected after their negotiation and approval. An integral part and a condition for approval of AP LR is prepared, negotiated with the Ministry of the Environment and approved documentation of the impact of the conception on the environment, so called SEA. An elaborated and approved complex documentation of large region assures the basic condition for the project and preparation of the realisation of transport constructions of public utility on the given territory.

The elaborating and completing of the area planning documentation of individual LR achieved by negotiating and approval is a long term and continual process. The elaboration of area planning has passed a relatively dramatic development since 1990 that has marked partially also a time schedule of achieving and approval of some area plans (characteristic example can be a motorway by-pass of Pilsen, where the realisation has been retarded for 6 years in comparison to adjoining sections of the motorway).

It is worth to note the changes of administrative bodies entrusted with the area planning by the law that assured the function of the area planning documentation organisers of large regions in the period 1990 - 2000.

- till 31.11.1990 Regional Administrative Committees
- 1.12.1990 - 31.10.1992 Ministry of Environment
- 1.11.1992 - 30.10.1996 Ministry of Economy
- 1.11.1996 - 31.12.2000 Ministry of Regional Development
- since 1.1.2001 Administration of newly created regions

In order to assure possible co-ordination and monitoring relationships among the preparation of motorways, expressways and the situation concerning the elaboration of the area planning documentation of large regions, the Ministry of Regional Development in its function as organiser (1996-2000), in co-operation with the Ministry of Transport and Communications and with the Direction of Roads and Motorways, carried out in consequence of government deliberations on the development of transport networks and schedule of financial backup, the basic comparative overviews that serve as an important informative bases for the identification mutual incompatibilities, problems, conflicts, insufficiencies and consequent decisions.

A part of elaborated documents is an actual overview on the covering of the territory of the CR by the area plan of large regions, carried out during the period 1990 -2001 in different phases of completion or approval.

Among the total 65 area plans of large regions 24 have been completed and approved, 17 are in the stage of negotiated proposal, 6 in the stage of completed, but yet not negotiated proposal. The other 18 area plans are in the stage of negotiated or completed draft or in the stage of investigations and analysis. A part of the document „ Overview of approved and elaborated area plans of large regions with the projection of motorways and expressways after the deliberation of the government of CR“ is a territorial average of existing, prepared and proposed network of motorways and expressways on the territory of the CR after document „ Proposal of the development of transport networks in the Czech Republic till 2010“.

A part of the complex overview is information for each transport project about the state of corresponding documentation of the impact of the construction on the environment (so called EIA) that is elaborated or approved by the Ministry of Environment. Overviewing documentation in the extent of the CR is elaborated in digital graphic form on the scale 1 : 500 000 and supplemented by summarising tables informatively related on the area planning documentation and on individual projects of prepared motorways and express roads.

It follows from gained experience that the existing procedure of decision on the corridor of the transport route produces non-lucid process. A set of required individual assessments and expertises considers the problem in an isolate manner viewed by individual disciplines. Thus one view is promoted on the detriment of others. In the interest of objectivity of the whole process it is necessary to find such a procedure that enables to define, in the framework of the preparation of relevant area planning and its negotiations as precisely as possible, the real public interest and includes it into the area planning documentation.

Provided that the process of assessment of all impacts and parameters in their mutual relations has been made more lucid during the preparation of the new law on area planning and building construction, it would be possible more easily define the measure of public utility and more difficult to present some particular interests as public ones.

2.1 Need for the general agreement and stability of conceptions

- stability of the routes in the area is generally a positive signal for investors as well as for the public,
- agreement on the location of the transport corridor requires compatibleness of heterogeneous requirements and ideas, personnel, local, regional and over-regional interests, owners of real property and groups of interests. These interests are often apparently incompatibles,
- subsequent revision of routes is usually tedious, „opening of old injuries“ means always a step back in achieved agreement. It can signify the impulse for the revisions of other agreements, the loss of hardly obtained and fragile stability and weakening of the position of the state administration.

3. Positive influence of large capacity communications

One of the main priorities of each country is a harmonious and balanced development of the whole territory in order to decrease the differences among the level of individual regions and to support their economic and social development. That is why it is necessary to realise a regional policy as a conceptual and executive activity of the state on a republic level as well as on the level of the regions.

The relation between the level of the transport infrastructure development and the territory development is explicit in the whole history of our civilisation. The transport lines are for the functioning of the society as necessary as arteries in a living organism - they must be functional like the arteries, otherwise there is a threat of the withering, stagnation. The structure of the transport arteries should be balanced in the territory, (one system is connected with the other and they should complete themselves mutually). The experience confirms that the investments and development select localities with existing transport infrastructure. Functioning transport network stabilises the conditions in the territory among others by permitting to eliminate the risks of local economic swing, e.g. high local unemployment.

The results of analysis and elaborated comparison demonstrate relatively close relationship between the evaluation of economic strength of the district and the quality of transport connections, expressed by the existence of the road of large capacity. The districts with the strongest economy among the set of Czech districts evaluated have also the best transport connections. On the contrary, the districts with the lowest quality of the transport connections have also a low economic strength.

3.1. Transport security on the roads

The accidents on the roads are undoubtedly the most important negative sign of the road transport. The unfavourable development of the total number of accidents in the CR during the last 10 years is characterised by their increase of 163 %. The decrease of the number of accidents and their consequences is a task of primary importance in the CR alike in the developed countries of the EU.

It is necessary to express the transport security for international comparison in „relative rate of accidents“. This unit express the ratio of total number of a specific type of accidents for some time period (usually one 1 year) to transport capacity (for the same period).

Personnel accidents (it means accidents with the injury) and serious accidents (accidents with the death or serious injuries) are crucial for the objective assessment of accidents rate development.

These figures permit to determine an average relative accident rate for the transport capacity realised on the motorways. It has a value of 12.07 for personnel accidents (related to the transport capacity of 10^8 veh.km). The relative rate of accidents for serious accidents taken from the statistics of traffic accidents is 3.9. Personnel accidents rate on the road of the 1st class is characterised by the value 41.61 and for serious accidents by the value of 11.7.

The average annual decrease of relative rate of accidents (for the transport capacity of 10^8 veh.km) calculated from these figures for the transport on motorways and roads of the 1st class is given in the following table:

Average relative decrease of the rate of accidents

| Relative rate of accidents | motorways | roads of the 1st class | decrease of relative rate of accidents |
|---|------------------|-------------------------------|---|
| number of person. accid / 10^8 veh.km | 12.07 | 41.61 | 29.54 |
| number of serious accid / 10^8 veh.km | 3.9 | 11.7 | 7.8 |

Completing of the construction of motorways network will bring every year an expressive decrease of material damage and the decrease in the number of

- killed persons **70**
- seriously injured persons **238**
- slightly injured persons **1 431**

4. Influence on the environment

Inhabitants living in towns and villages, where the highly frequented communication pass (especially roads of the 1st class), are exposed to unfavourable impact of excessive noise and influenced by polluted environment. The principle that is always valid for the layout of motorways, it means the implantation of the communication out of the urbanised area represents the most important element for the elimination or reduction of unfavourable impacts on the population. It was demonstrated during the detailed evaluation of planned sections of motorways that the number of inhabitants living in the zone less than 100 m from the axe of the motorway is about 95% lower than the number of inhabitants living in that zone along roads. The number of inhabitants living in the zone 100 - 500 m from the motorway will be lowered by more than 90 %.

The estimation of the number of inhabitants influenced by the traffic on the 1st class roads, to which the motorway creates an alternative secure transport line of large capacity (after its realisation), represents:

| | |
|-----------------------------|---------------------|
| in the zone less than 100 m | 66 000 inhabitants |
| in the zone 100 - 500 m | 185 000 inhabitants |

The transfer of the transport on the motorway includes beside towns and villages also the centres of large agglomerations (Plzen, Ceske Budejovice, Ostrava). The **number of influenced inhabitants will decrease to less than 10 %** after the realisation of the planned motorway network. It represents 60 000 inhabitants in the zone less than 100 m and 170 000 inhabitants in the zone less than 500 m. Existing technological and technical equipment of motorways permits to assure that the hygienic limits for equivalent noise level (days and nights) as well as emission limits will not be passed over.

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