

The First B&H Congress on Roads

-Conclusions-

During the First B&H Congress on Roads held on 27th and 28th September 2007 at the Holiday Inn Hotel Congress Centre in Sarajevo various aspects of roads and road network (such as planning, designing, construction, managing, safety, financing and environmental protection) in Bosnia and Herzegovina, neighbouring countries and Europe have been presented.

More than 570 participants from Bosnia and Herzegovina, Spain, Hungary, Germany, Austria, Croatia, Slovenia, Serbia, Turkey, Great Britain and Holland took part in this gathering, which had international character. 84 papers were presented during the Congress, while 142 reports were published in the Congress Collection of Papers.

On the basis of the reports published in the Collection of Papers and presented at the Congress and on the basis of the discussions during the sessions, as well as on the basis of the reports issued by the session leaders, the following conclusions have been made:

1. Road Transport System Development Strategy

- The first conclusion of the „Road Transport System Development Strategy“ workgroup indicates that development of high level service roads is one of the very important conditions for faster national and international integration of Bosnia and Herzegovina and for creation of an ambience for more rapid socio-economical and geographical development of the country.
- Bosnia and Herzegovina has to adopt the strategy for development of high ranking roads in the shortest possible period.
- It is essential to develop driving mechanisms which will refer to the following: creation of a data base, elaboration of plans, programmes and strategies, establishing of institutions for managing of high ranking roads, and provision of resources (from the fuel prices) for financing of these roads.
- It is necessary to engage in faster development of scientific and research works and in education of human resources in the field of road transport infrastructure.

2. Studies and Designing

- a) Studies
 - Problems referring to the topics - Studies and Designing – Part concerning the studies - have been treated on a very high expert level. Significant methodological contributions have been given in some of the reports which are very important for a wide range of experts engaged in

preparation of the studies and designing of the roads and which refer to the following:

- Reviewing and establishing of capacities for dual carriageway suburban roads;
- Methods for selection of optimal intersections;
- Defining of adequate methodology in preparation of the traffic studies with phased (sectional) road construction scenarios.
- Reviewing of advantages of roundabouts over intersections with traffic lights in the case of Bosnia and Herzegovina.

b) Geology

- Reports concerning the geology mainly talked about the current topics, with the exception of stabilization and protection of slopes. Due to the unfavourable configuration of terrain on Corridor Vc, stabilisation and protection of slopes and solving the problems with landslides is going to be of utmost importance. This problem should be addressed with special attention and discussed as a separate topic at the following congress about the roads.

c) Designing

- Presented papers clearly point out significant problems of lack of scientific and research work in the field of traffic engineering and road infrastructure in Bosnia and Herzegovina, as well as backwardness of domestic engineering practice in relation to modern trends.
- It is recommended to initiate major activities in establishing of adequate capacities for scientific and research works in the roads sector, the basis of which has to be present in training structures (higher education institutions) and research institutes.
- It is necessary to provide significant support of the road economy and the road management structures, as the group of users that should be the most interested in improvement of their activities and in upgrading of the roads network.
- In designing and construction of the new road infrastructure it is necessary to have the best possible coordination of the activities between the design consultants and contractors on one side and the representatives of the local communities on the other side.
- It is essential to continue further activities on implementation of the Corridor Vc Motorway.

d) Structures

- It is necessary that the institutions of Bosnia and Herzegovina start, as soon as possible, with harmonisation and adaptation of European

technical standards, in order to enable their applications in wider engineering practice.

- This especially refers to the group of the Eurocode (EN 1990 to EN 1999) Norms, for whose application it is necessary to prepare the National Application Document (NAD). It is not enough to adopt automatically these standards issued in English language as national standards without any adaptation of the same to the local conditions (this especially refers to natural phenomena such as wind, snow, earthquake and similar).
- In order to be ready to use the standards of the “new generation” it is necessary to organise intensive training courses which will be implemented by the proven scientific and highly specialized institutions and individuals. Failing to do so may cause only specialists to have to be involved in their application, which is not good for the wider-usage engineering practice.
- Although the first according to its name, the First B&H Congress on Roads has undoubtedly shown that it is essential to exchange experiences and knowledge with the experts from the European countries on a more frequent basis, especially with the experts from the countries with which we have traditional connections mainly in the field of planning and designing of the road infrastructure as well as construction of modern and expensive structures such as large tunnels and bridges. This is very important both from the construction management and utilization of these structures standpoint as well as from the technical, safety, ecological and aesthetic standpoint.

3. Financing, construction and maintenance of road infrastructure

- Successful financing, construction and maintenance of the road infrastructure requires integrated national plans for development of the roads network, existing valid regulations, governmental institutions and sustainable financing resources.
- Construction of motorways offers high macroeconomic and socioeconomic effects, which are not, very often, followed by appropriate market and financial effectiveness of the projects. Public financing is without any doubt the most acceptable way of financing the infrastructure projects, if the conditions of the state’s creditworthiness are fulfilled as well as its capacities of internal and external indebtedness.
- Partnership between the private and the public sector, which attracts various private investors, also becomes a very acceptable way of financing. In this case, the governments have to develop an attractive and mutually acceptable programme of benefits for the private investors, such as giving certain guarantees, input of own resources into joint projects or similar.
- It is very important to ensure attractive micro-economic and commercial ambience in order to engage the leading international financial institutions interested in roads projects’ financing such as IBRD, EBRD and EIB, which

with their presence encourage also the private investors to enter into different road construction and road operation arrangements.

- In strengthening of the government financial capacities for financing of road construction, so-called “oil income” plays a very significant role.
- Bosnia and Herzegovina has to introduce “petro-mark” for construction of motorways in the country, as a significant and stabilizing factor for building of a system for financing of the roads construction.

4. Construction and maintenance of roads

- Successful construction of a high standard motorway network in Bosnia and Herzegovina requires preparations, which start with adoption of the strategic documents of the BH Government but also include a sequence of other various activities from planning, designing until the construction itself.
- A motorway is a public property of great importance for the state; therefore, all activities have to undergo inspection by the competent state authorities, in order to ensure satisfying of public interests during construction and protection of individual interests of the third parties.
- For rehabilitation and reconstruction of roads it is recommended to use the process of cold recycling at the site, because such a process offers several advantages such as: usage of the material from the pavement structure, reduction of negative environmental impacts, avoiding of production of new materials from the quarries for replacement of the old pavement structure, additional transportation and laying of material is not necessary, works can be executed even in unfavourable weather conditions, time is significantly reduced for implementation of rehabilitation works, etc.
- At the Corridor Vc Motorway alignment in Bosnia and Herzegovina around 75 km of tunnels is foreseen. As the tunnels are very complex and expensive structures from an engineering point of view, the problems with regards to their constructions have to be reviewed from all relevant aspects (surveying, designing, construction, supervision etc.)
- All structures on the roads and motorways have to be efficient and functional, technologically simple, visually attractive and environmentally friendly engineering solutions.

5. Protection of environment

- Designing, construction and maintenance of a road, which both satisfies the technical criteria and creates minimum negative impacts on the environment, represent a challenge that all the stakeholders have to face up to and which have to be successfully solved to mutual satisfaction. .
- The attitude “we – the design consultants” and “you – the environmental experts” or “you – the public” leads into the enchanted circle and will not give any qualitative results.

- Statutory system, especially in application, has to be improved.
- Zero situation of the environment (i.e. its components) is difficult to determine - monitoring of the environment should be improved and coordinated as better as possible.
- “Scale effect” or “Proportion effect” should be taken into consideration during assessment of environmental impacts.
- Procedures and activities with regards to environmental aspects of the Corridor Vc Motorway project have significantly contributed to boosting of public awareness on protection of the environment.

6. Roads management

- The role of the computer systems have been specially emphasized as they serve as a support to the comprehensive reviewing of the conditions on the roads, as well as various applications which enable reliable and qualitative management of the roads and the structures on the roads.
- Pre-classification of the roads in Bosnia and Herzegovina is set as a precondition for further rational building of the system for management of the roads.
- Application of modern and contemporary systems for management of the roads and the road structures is necessary in order to achieve more efficient investments with them into the road network.
- It is necessary to apply a more systematic approach to planning and management of traffic in the urban areas, while already developed models can help in timely planning of the investments.

7. Roads safety

- As a consequence of traffic accidents on the roads in Bosnia and Herzegovina more than 450 people lose their lives on an annual basis, while more than 2.000 people sustain severe injuries, which besides immeasurable loses suffered by their families, causes tremendous costs to the society as a whole. Inadequate vehicle speed is the main cause of the traffic accidents on our roads.
- Inadequate technical standards and capacities of certain road sections are evident. There are only 20 km of the motorway in Bosnia and Herzegovina which, together with the lack of application of scientific methods in evaluation of the safety of the road sections and tunnels, makes a significant negative impact on the level of safety on the roads in Bosnia and Herzegovina.
- Low standard of living, together with the present tax system and relatively unfavourable loans which does not stimulate buying of new cars, as a result cause the situation that the passenger cars registered in Bosnia and

Herzegovina are more than 15 years old on average, which also creates negative impact on safety on the roads.

- For bringing of decisions essential for improvement of safety on the roads in Bosnia and Herzegovina, it is important to engage the high ranking politicians (“Council for Traffic Safety”), who are capable to secure financial support for application of scientific methods in solving of the above mentioned problems.
- By continuous implementation of the „awareness campaigns” it is possible, on a short-term basis, to achieve certain results in improvement of safety on the Bosnia and Herzegovina roads, while the effects of the same can be significantly increased by consistent enforcing of the relevant legislative provisions.
- Therefore, it is essential to define a strategic framework and to prepare an action plan for improvement of the safety on the Bosnia and Herzegovina roads, which will instigate the road infrastructure improvement programmes from the safety aspects, enable increase of the number of newer vehicles and, at the same time, reduce the number of the technically defective vehicles in the vehicle fleet of Bosnia and Herzegovina, as well as raise the behaviour of all participants in the road traffic to a higher level.



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