

## TRAFFIC - GENERATOR OF ECONOMIC DEVELOPMENT

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### Summary

Interest, present in the determination of the interdependence of economic development and traffic, initiates the knowledge that there are several approaches and methods that can be applied during the study.

In order to try to give one or more answers to this and other issues the authors of this paper identify following research tasks:

To define the concept of traffic;

To identify the elements that will support decisions on the location, content and type of business entities with the alignment of roads.

The aim of this paper is based on research to determine to what extent does the construction of Corridor 5 C contribute to the improvement of economy in Bosnia and Herzegovina, and in this sense, the research will be aimed at obtaining answers that will allow to:

Improve existing knowledge on the transport route - economic development,

Refine the existing theoretical framework in the field of economic development,

Create a data distribution system, planners and managers of businesses. The research will be based on three platforms: caution, adjusting and foundation of knowledge.

With the given research frame, authors will examine the direct and indirect effects of traffic, as well as labor intensive tertiary industries, which generate economic development and have a distinct economic function in the country in which it occurs.

Keywords: transportation, economy, development, road transport, rail transport, Corridor 5 C, roads.

### Introduction

While addressing the main objectives and policy directions of development of individual types of traffic in Bosnia and Herzegovina or within a certain region, one must start from the premise that traffic, with its total capacity and the formation of supply of services, is only one part of the overall transport system of the country. Its traffic capacity needs to meet the social need for transport in the country, or in a particular region, from which it follows that the development of transportation policies in the one direction, if we consider Corridor 5 C (road and rail transport) in this context, should focus on the contribution that the traffic will have on the direction of economic trends in the country. In this sense, the aforementioned corridor, should be seen as an integral part of overall economic development and its objectives within the economic policy of Bosnia and Herzegovina.

For the revival of economic activities in Bosnia and Herzegovina, it is necessary, in addition to all aspects of the organization in a better economy, to fully develop all forms of transport, and thus road traffic. First of all, to improve the existing network of roads, build a new network of roads, and in particular, as early as possible in its entirety to build highway on Corridor 5 C, as the basis for linking the north and south of the country and integrating in the European roads.

The construction of the planned highway, Corridor 5C, would create the preconditions for the inclusion of Bosnia and Herzegovina in modern traffic flows, as well as inclusion in the traffic map of Europe, while creating conditions for better transport links with neighboring countries. Planned Toll Roads ( Corridor 5 C, Highway Doboj - Banja Luka, Tuzla highway - the highway Orasje Lasva Valley Donji Vakuf) will contribute to better traffic connections in the country, better support strategic and long-term investment projects and support regional development strategies. For Bosnia and Herzegovina, as a small country, there is no alternative but growth based on exports, as the economic analysts are rating, and that is why it needs more developed network of roads.

### Traffic in terms of economic development

Transport is a complex dynamic system with many elements of internal organization, which characterize it in their dynamic development. Transport system can be defined as a set of elements of technical, technological, organizational, economic and legal nature, aimed at people and goods transportation, power transmission and news, and regulation of their flow in a particular area.<sup>1</sup>

Its structure can be displayed in the form of diagrams, as vertical structure, where the elements are in hierarchical dependence, and their elements in the relationship of equal dependence are forming its horizontal structure.<sup>2</sup> Structure defined in that manner, allows traffic to be classified in one of the most important economic systems of each country, because it represents the blood stream of economic and social activities.

By analyzing the elements of the transportation system as a subsystem of the social system, one can say that it comprises the following elements:

- technical
- technological
- organizational
- economic
- legal
- the level of intellectual capital
- an environmentally<sup>3</sup>

Understood in this way, transport system is part of a complex social system, which is caused by a large number of disparate elements (of the technological and legal).

1 Mrnjavac Z, Povijest ekonomije rada i pogleda ekonomske teorije na nezaposlenost, Faculty of Economics, Split, 1996.

2 The vertical structure of the transport system includes : the elements of technical, technological, organizational and economic nature and elements of legal nature. The horizontal elements of the transportation system include traffic routes: land transport (road and rail), water (sea, river and lake transport), air, pipeline, transportation, postal deliveries, telecommunications and power transmission market.

3 Halid Kurtović: Uticaj mjera ekonomske politike Bosne i Hercegovine na planiranje i razvoj turizma u zemlji, Journal of Law faculty University of Zenica „Društvena istraživanja“ no. 1, Zenica, 2007.

Some of them, by its nature, have an international character, then becoming the generator of economic development, causing the organizing process, which under the pressure of market needs to take on the importance of the transport chain. In this way it contributes to the establishment of a large number of, not only major, but also minor processes that take place in accordance with the more complex criteria.

These processes characterise the traffic as a whole, when it comes to the realization of its functions, thereby confirming the hypothesis that traffic is not natural, but artificially stratified system. As a subsystem of a complex dynamic traffic system, we can view some aspects of its operation, such as technical, organizational and economic. Understood in this way the transport system has its spatial and temporal dimension.

Consequently, traffic is transport activity and communication activity from baseline to end point and has three different meanings:

- the broadest sense is associated with relations between people,
- a somewhat narrower sense refers to various forms of economic interrelationships of economic nature- the freight traffic, traffic exchange, interstate traffic,
- narrowest sense includes "... transport, and operations in connection with the transportation of goods and passengers, and communication."

Therefore, it can be concluded that the traffic is broader concept of transportation. From which it follows, that the traffic can be classified into economic activity, if the transport (transfer) of people, goods, energy and the news is organized on a commercial basis. That makes it a system which can be used with three constituent factors:

- A man (his knowledge, experience ...)
- Vehicles and equipment
- traffic infrastructure.<sup>4</sup>

This is confirmed by the research of many scholars, who argue that the traffic is one of the main areas of material production. According to K. Marx, the transport industry "/ LOKOMOTIONS INDUSTRIE / that transports people or goods, is the fourth area of material production behind the industry, agriculture and manufacturing industry".<sup>5</sup>

Historical development of certain forms of transport reaches in ancient times, and finding of the wheel was revolutionary for the development of road transport.<sup>6</sup> Therefore, traffic is the result of a certain level of economic development in a country with one hand, and on the other hand he carried a retroactive effect and impact on economic development of the country. On this basis, interdependence in the development of transportation and the economy can be established. Therefore, the interdependence in Bosnia and Herzegovina, must be viewed from two aspects:

1. The effect of traffic on the development of economic activities, and

2. Effect of economy on the formation of the transport system.

These two aspects of observation are interrelated, because it is an analysis of feedback between transport and economy in Bosnia and Herzegovina, with accent on certain interdependence and correlation between movements in the size of individual economic units in the economy and transport services. This interdependence is present in both, the impact of transport on economic development, and economic impact on improving traffic and its adjustment to the needs of business entities. Therefore we can say that traffic (road and rail), acts as a decisive factor, and as a significant multiplier and acceleratory factor of economic development.

**In Bosnia and Herzegovina, as in all other countries, traffic gives a great contribution to economic development, and a special contribution to creating a single market, with a factor that helps the formation of the same.** It can be said that traffic generates business and economic security of our country as a stabilizing factor, and thus directly affects the efficiency of the functioning of the entire economy of Bosnia and Herzegovina and creates unique economic area in the country.

Also, without a doubt, transportation plays significant role in regional economic development. This is confirmed by certain thresholds of development of the economy of certain regions, which correspond to the developmental thresholds of individual means of transport - rail, road or air traffic. Therefore, we can say that the traffic is highly complex technical, technological, organizational, economic and social phenomenon. It is impossible to fully consider all aspects of this phenomenon if it is not viewed as a complex system.<sup>7</sup> The criteria by which traffic classification should be performed are:

- medium or environment in which the transport takes place,
- the state-legal significance of the territory where the trade takes place,
- traffic area, or the way in which the transport takes place,
- the spatial distance at which the trade takes place,
- a kind of means of transportation
- object or subject of traffic
- traffic and users
- technological and organizational characteristics of traffic.<sup>8</sup>

These criteria should be viewed from the point of the contribution of transport to economic development in some regions of Bosnia and Herzegovina, because every region in our country has different economic and demographic structure. If these differences are greater, then the same demand adjusting traffic structure to individual regions.

In addition, modern economy and its development is characterized by continuously increasing the movements of various commodities, people and services, as this activity imposes an obligation to adapt any changes. Such intense economic growth is contributing to changes in the structure

<sup>4</sup> Jusufrić Ibrahim: Osnove drumskog saobraćaja: tehnologija, organizacija, ekonomika, logistika, upravljanje; Faculty of transport and traffic engineering in Travnik: Travnik, 2007. page 15

<sup>5</sup> K. Marks, Teorija o višku vrijednosti, Book I, page 387

<sup>6</sup> Jašarević F.: ABC međunarodnog cestovnog transporta, Interlinea, Sarajevo, 1998, page 5.

<sup>7</sup> Božić V.: Ekonomija saobraćaja; Publishing Center of Faculty of Economics in Belgrade; Beograd, 2009, page 59.

<sup>8</sup> R. Zelenika: Prometni sustavi, Faculty of Economics in Rijeka, Rijeka, 2001, page 196.

of the transportation system, in goods traffic, as well as passenger traffic. Therefore, development of transportation planning in Bosnia and Herzegovina should be a result of economic policies in the country, and policy makers are institutions that project and objectify desirable economic goals. On the basis of economic and political powers, while exercising the public interest, certain actions, decisions and measures are being taken to achieve these goals.<sup>9</sup> Therefore, traffic planning should be defined by the result of economic and transport policy at the country level, the entities and cantons.

Bosnia and Herzegovina must take into account three important goals in traffic development:

1. Adequate linking of Bosnia and Herzegovina national space through traffic,
2. Establishment of good transport links with neighboring countries and
3. Engaging and integrating into the European transport corridors.

These goals can be achieved by upgrading and construction, in addition to Corridor 5 C, new roads, such as highway Dobož - Banja Luka, which leads to significant effects in the functioning of the overall flow of economic developments in all regions of the country. Bosnia and Herzegovina has a distinct economic regions, such as Tuzla, Banja Luka, Mostar and Zenica in which the question of development brings traffic directly into function with the overall development of the region.

However, traffic that really aims at economic development of Bosnia and Herzegovina must fulfill some prerequisites for attracting foreign investment. The new investment would allow the change or diversification of production of conventional technologies in the industry, which are, for the most part, present in Bosnia and Herzegovina. Similarly, new investment, particularly foreign direct investment has contributed to the construction of new production capacity of high technology, whereby, should take into account that new investments are aimed at propulsive original programs, which will contribute to increasing the competitiveness of the economy of Bosnia and Herzegovina.

In order to attract foreign investment, our country must have a comparative advantage over other countries, which also have aspirations for the direct foreign investment. These advantages could be grouped into several segments without assuming that they are the only one and decisive advantages compared to competing countries, namely:

- experienced and professional workforce;
- cheap labor compared to most countries;
- excellent geographical and geopolitical position of the country,
- a solid computer skills and knowledge of foreign languages,
- a rich tradition in the industry;
- to ensure good cheap resources and
- good education system and a long tradition in scientific research.

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<sup>9</sup> H. Kurtović i K. Hodžić: Privredno-pravni sistem i politika, Law faculty University of Zenica, 2011, page 40.

It should be noted that when foreign investors invest their capital in one country, their success is partly determined by the possibility of transferring competitive technology in the country in which they invest<sup>10</sup>, which is often not simple<sup>11</sup> if the transport system is not at the high level. Internationally competitive economy requires a complementary push / pull process that forces the market to adjust. Study Group of the Institute of Industrial Research (Industrial Research Institute of Advanced Study Groups) expressed three factors important for successful technology transfer in the abbreviation "3C" (credibility, credibility, Champion (s) - Winner, Communication - Communication).<sup>12</sup>

Therefore, the problem of traffic must be approached as one of the basic conditions to ensure the development, and because of that, the selection of the optimal structure of the transportation system within a specified direction, especially if that direction is very important as the direction Svilaj (the bridge on the Sava) - Dobož - Zenica - Sarajevo - Mostar - Ploče must be treated as one of the major outstanding issues for future economic development of Bosnia and Herzegovina.

However, when we talk in general about the Corridor 5 C, then we should bear in mind the fact that it includes road and rail traffic on this route. Route of both branches of transport (road and rail) of Corridor 5 C is the same, so that the highway and railway line have the same corridor. Projected route corridor should contribute to better linking northern, central and southern Europe, and as such represents excellent value in the context of business processes and integration of transport in this part of Europe.

Consequently, if we analyze the contribution of the planned route of Corridor 5 C (road and rail) on the economic development of Bosnia and Herzegovina, we will notice that the inclusion of the transportation system of our country, in the trans-European transport system, will make a significant contribution to the economy and the inclusion of our country in international economic processes in Europe.

#### **Road traffic and road network development**

Bosnia and Herzegovina, as a Balkan country, despite its extremely favorable geographical position, natural resources and cheap labor is still relatively far away from their long-term goal of joining the European Union. However, the perspectives of its future development set establishment of the transport, energy and

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<sup>10</sup> Chung, W. (2001.): Identifying technology transfer in foreign direct investment, Influence of industry conditions and investing firm motives, *Journal of International Business Studies*, 32(2): 211-229.

<sup>11</sup> Chen, E. (1996.): Transnational corporations and technology transfer to developing countries, In UNCTAD, Transnational Corporations & World Development, Thomson Business Press: London, UK.

<sup>12</sup> Ezzat Howell, Kamall, Mattavi, Russo and Schmidt agree with the basic "3C" principle, and add: 1. transfer of technology should be viewed as a process which requires continuous and complex interpersonal interactions, 2. transfer of technology "in the eye" is much more effective, and publication of research results is neither essential nor sufficient condition for technology transfer, 3. The movement of people is one of the most successful technology transfer, 4. Participation in the creation and development of technology is motivated by internal rewards (financial incentives and rewards).

telecommunications infrastructure as the imperative. The realization of such a complex problem requires not only diagnose of existing situation, both in the sphere of transport, and in all other compatible areas, but finding an adequate model to overcome the existing situation and its compliance with the requirements and needs of today's market as living matter with clearly defined needs and requirements that help to keep pace with international standards.

In this sense, the construction of Corridor 5 C, partly through Bosnia and Herzegovina, which forms one arm of the Pan-European Corridor V, will make route traffic, which can be treated, by its elements of construction, modernization and organization of traffic and the traffic flows, as a step towards meeting the high standards established in the EU when it comes to traffic.

Observed in wider manner, this route will, as a part of entire network of E roads, occupy a central position and connect many European countries. At the direction of the Corridor - 5, to which the branch of Corridor 5 C belongs, which passes through Bosnia and Herzegovina, crosses a number of significant "E" roads: these are the Pan-European Corridors, defined routes in Central and Eastern Europe which require investment in the next 10 to 15 years because of its importance. Their routes were established in three Pan-European Transport Conference, held at the level of ministers of traffic.

The first such conference took place in Prague in the 1991, shortly after the fall of the Berlin Wall. This conference did not yield the expected agreement, but only established concepts for the future arrangements. At the second conference held in Crete 1994, nine transport corridors were defined, while the 10th corridor was defined at the third conference in Helsinki in 1997.

Helsinki Declaration extended Pan-European Transport Corridor V with arm C, which passes through BiH in the direction of Budapest - the port of Ploče. This branch joins the main branch of the Pan-European transport corridors V in Budapest.<sup>13</sup>

The special significance of road and rail networks of Pan-European Corridor 5 C in BiH lies in the fact that it is going through major economic centers in the state, except Banja Luka, to which it will be connected by the construction of the highway Doboš - Banja Luka, and as such, will generate economic development of these regions. With commenced construction of Corridor 5 C, the transport system of Bosnia and Herzegovina directly involves in Pan-European Transport Corridor X, which has special significance for our country. This importance is reflected in a better relationship with Zagreb, Belgrade and Ljubljana, the centers of neighboring countries through which the largest mutual exchange of commodities of our country takes place. Accordingly, it confirms the fact that the transport process is the process of production of transport services, so its quality is also the quality of transport services.<sup>14</sup>

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<sup>13</sup> Čekić Š.; **Bosna raskrsnica Evrope**; Council of the Congress of Bosnian Intellectuals; Sarajevo, 1998.

<sup>14</sup> Čekić Š.: *Ekonomika u transportu i komunikacijama*; Faculty of traffic and communications in Sarajevo; Sarajevo, 2005, page 69.





The strategic orientation of B&H railways is the construction of modern railway infrastructure on the lines that are part of the Pan European railway corridor, which will make the best use of the traditional advantages of rail transport for the economy of the country (security, reliability, reduced transportation costs, etc.). Also, it is necessary to, in currently divided railway management system (ZFBiH and CDS) to create an integrated rail network in the country (to create the conditions for the technical, operational, commercial, legal, regulatory and human integration). Railways of Bosnia have an excellent geographical position. Her lines are integrated into the European railway network and incorporated into contemporary international rail flows. The construction of the railway corridor 5 C, integration into the Pan rail corridor will be even more expressed.

Existing network of railway lines in BiH are : Samac - Doboј - Sarajevo - Mostar Capljina (BiH border) - Ploce (Croatia); Zvornik - Tuzla - Doboј - Banja Luka - (Bosnian) Novi Grad; Banovici- Tuzla - Brcko - Croatia, and Novi Grad - Bihac - Martin Brod - Croatia (aka Una-line).

### Conclusion

Like other countries in the region, Bosnia and Herzegovina is facing, in the transport sector, with significant disabilities that limit the accessibility and mobility, both at the national level, as well as to neighboring countries. In addition, Bosnia and Herzegovina is faced with topographic constraints that have a direct impact on the growth of investment costs and costs of building new roads and

maintenance of constructed. These extremely high costs are present in the sector of rail and road traffic. Underdeveloped network of roads and highways, the problems that exist in the railway infrastructure (management of two centers: Sarajevo and Doboј) and vehicles that are not on necessary technical and technological level, under-organized efficiently functioning airport, insufficient availability of experienced and highly qualified staff and necessary improvements in security and quality of service, are part of the list of problems identified during the research for this paper.

During the past year, efforts were focused on improving the legal framework and starting structural reforms to separate infrastructure from operations, while simultaneously addressing the most pressing problems of traffic infrastructure network (mainly to road and rail from the score). However, the needs which have to be considered are great and the financial resources necessary to resolve all existing bottlenecks and infrastructure decay are much higher than their own, limited resources. In this regard, Bosnia and Herzegovina has already started promoting private-public partnerships, concession agreements, bank financing and contributions from international donors, in order to be able to answer to many needs for investments.

In addition to these limitations, we considered the place and role of the two branches of the traffic (road and rail traffic) in the economy of Bosnia and Herzegovina. We came to the conclusion that only through the integration of transport systems (road and rail traffic) in the Trans-European network of transport system, we can contribute to the revival of business investment, and give

driving force to the export orientation of the economy of Bosnia and Herzegovina and attract foreign investment. In these considerations we had in mind that these two transport sectors with its total capacity, shape and structure deals in recent history, made the biggest contribution to the country. In doing so, we started from point that only involvement in the Pan-European transport networks (road and rail), road and rail traffic, can become a generator of economic development of Bosnia and Herzegovina.

In this sense, we investigated the role and place of rail and road traffic. Especially analyzing their contribution to economic development of Bosnia and Herzegovina after the construction of Corridor 5 C (road and rail) in the direction of traffic and its role in the economic development of the country. We found that Corridor 5 C (road and rail traffic) and its infra-structure and the available capacity will represent the most important part of the transportation system in the country. Especially when one takes into consideration that it will make the connection between the two most important road

communications in Southeast Europe, Corridor X (highway between Zagreb and Belgrade) and the Adriatic-Ionian highway, that will be a link between north and south of the country. At the same time, Corridor 5 C, will be the shortest link between Central Europe and the Adriatic Sea and the port of Ploče.

Summarizing the results of previous research in the domain of the role and importance that the transport system has in the development of the entire economic system of Bosnia and Herzegovina, one can confirm the justification of investments in the sector of road transport in order to stimulate and generate economic development in Bosnia and Herzegovina. Whereas the process of establishing and developing the road network should be based on the experiences and models applied in the neighboring countries and other European countries. Whereas the process of establishment and development of road network should be based on the experiences and models applied in the neighboring countries and other European countries.

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