

Title: National background report on Transport for Bosnia and Herzegovina

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Executive Summary

The fundamental objective of this report is to provide all available information on transport related R&D capacity and infrastructure in Bosnia and Herzegovina (BiH). This should enable cooperation between Western Balkans Countries and researchers from European Union (EU) countries, making realization of regional Research & Development (R&D) priorities more feasible.

Last year, BiH and EU signed the Stabilization and Association Agreement (SAA), which is the first step to EU integration. Integral part of SAA is "Protocol on Land Transport", which should ensure that the land transport between and through the territories of BiH and EU is developed in a coordinate manner. BiH also participate in South East Europe Transport Observatory and implement the Common Aviation Area Agreement.

The most of the R&D projects in the country have been performed by Universities. As there is no national research strategy sustained (both institutional and financial) efforts remain necessary to support coordinated identification of priorities in this sector. As a consequence of such a situation, transport research project in the country mostly depend on limited Governments' budget resources and private companies' funds.

In spite of significant investment during the last decade, the transport infrastructure reconstruction and development is expected to stay among top priorities in the sector for the following period. Other challenges for the country include sustainability of the entire transport system, development of intermodal transport fostering the benefits of each mode of transport as well as transport infrastructure management and traffic management.

According to BH Agency for statistics, the nominal value of the Gross Domestic Product (GDP) in 2007 was KM 21.64 billion, what is a 13.2% of a nominal growth. The growth trend from previous years has continued stimulating both consumption and investment in the country. On the other hand, growing trade deficit and the significant increase in public spending generate disproportion in the current account, creating the additional financing needs. Improving competitiveness and efficiency of public spending will be some of the most pressing economic reform challenges for BiH.

SWOT analysis of the Transport research capacity in Bosnia and Herzegovina

Strengths: <ul style="list-style-type: none">⊕ <i>Established National Contact Point</i>⊕ <i>R&D Institutions are willing to improve the current situation</i>	Weaknesses: <ul style="list-style-type: none">⊕ <i>Strategic approach is missing</i>⊕ <i>Insufficient and fragmented funding</i>⊕ <i>Poor research infrastructure</i>
Opportunities: <ul style="list-style-type: none">⊕ <i>Memorandum of Understanding on the association of Bosnia and Herzegovina to the Seventh European Framework Programme</i>	Threats: <ul style="list-style-type: none">⊕ <i>Global financial crisis</i>

Transport research priorities for Bosnia and Herzegovina

Readiness <ul style="list-style-type: none">⊕ <i>Road Traffic Safety Improvement</i>⊕ <i>Mitigation of Environmental Impacts</i>⊕ <i>Improvement of Urban Mobility</i>	Potential <ul style="list-style-type: none">⊕ <i>Intermodal Transport Development</i>⊕ <i>Transport Infrastructure Management</i>⊕ <i>Traffic Management</i>
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Introduction

According to the “General Framework Agreement for Peace in Bosnia and Herzegovina” (signed in 1995), The Inter-Entity Boundary Line divides BiH into two entities, each with a high degree of autonomy: the Federation of Bosnia and Herzegovina (FBiH) and the Republic of Srpska (RS). In addition, in 1999, Brčko District of BiH (BD) was established as a single administrative unit of local self-government existing under the sovereignty of BiH¹. Consequently, three Governments in BiH have the executive power: the Council of Ministers of BiH and the two Entity Governments.

“EU accession is a strategic priority for BiH. Aspirations of BiH to acquire full membership in the EU are based on a wide political consensus. The Declaration on Special Relations with the EU was adopted in 1998, and in 1999 Decisions by the BiH Council of Ministers and the Parliamentary Assembly, As well as the statement made by heads of political parties. The Parliamentary Assembly adopted Conclusions which, inter alia, present the presence of a full political consensus that EU membership is the highest possible priority for BiH”² Last year, BiH and EU signed the Stabilization and Association Agreement (SAA), which is the first step to EU integration.

National Agency for Statistics estimates that some 3.8 millions of people live in Bosnia and Herzegovina (the last census was held in 1991!). BiH is a middle-income country, with small economy, where approximately two thirds of GDP is created in the service sector, 25 percent in industry, and less than 10 percent in agriculture, hunting, fishing and forestry. The recent encouraging economic growth may be stopped if there is no progress towards a more democratic and efficient country by implementation of the comprehensive reform agenda.



Figure 1: Map of Bosnia and Herzegovina

¹ The Statute of the Brčko District of BiH: Article 1.

² BiH Directorate for EU Integration: EU Integration Strategy, 2006.

1. Purpose of the national background report and methodology/summary of the consultation process

The fundamental objective of this report is to provide all available information on transport related Research & Development capacity and infrastructure in Bosnia and Herzegovina. This should enable cooperation between Western Balkans Countries (WBC) and researchers from European Union countries, making realization of regional R&D priorities more feasible.

The other objectives of this report are:

- ✦ To identify transport research priorities in the country;
- ✦ To identify transport research problems in the country.

This report is based on data collected from many different sources, especially:

- Organisations responsible for R&D funding in the country;
- Main research performers in BiH, both from the public and private sector;
- Reports and studies related to research and transport in BiH.

List of institutions and research performers in the country was prepared on the basis of internet research as well as from the Consultant's personal database (the list of used web sites is given in Appendix 1). The next step was sending out the questionnaire to the research performers in the country, aiming at collection of data from relevant resources (needed for the quantitative assessment).

At the same time, the Consultant was started qualitative assessment procedure. The basis for the qualitative assessment has been the following:

- ✓ Stabilization and Association Agreement between European Commission and Bosnia and Herzegovina;
- ✓ European Commission Working Document: Bosnia and Herzegovina 2008 Progress Report {COM (2008) 674};
- ✓ Document of the European Bank for Reconstruction and Development: Strategy for Bosnia and Herzegovina;
- ✓ The World Bank Strategy in Bosnia and Herzegovina / Country Brief 2008;
- ✓ Transport Policy of Bosnia and Herzegovina from 2007 to 2020 (DRAFT);
- ✓ South-East Europe Core Regional Transport Network Development Plan - Five Year Multi Annual Plan 2009 to 2013;
- ✓ Central Bank of Bosnia and Herzegovina: Annual Report 2008;
- ✓ Agency for statistics of BiH "Thematic Bulletin 10: National Accounts", Sarajevo 2008;
- ✓ Audit Office for the Institutions of FBiH: „Report for 2007 - Ministry of Education and Science of FBiH“;
- ✓ The Supreme Office for the RS public sector auditing "Report for 2007 - Ministry of Science and Technology of RS".

Statistical data system is different than in EU countries, so BiH transport and economy data are not up to EU standards.

2. The Transport S&T system in Bosnia and Herzegovina

2.1 The Bosnia and Herzegovina and Transport policy framework

In 2006, the Ministry of Transport and Communications of BiH (MoTC), with the support from the European Bank for Reconstruction and Development (EBRD) and the World Bank (WB) was started preparation of Transport Sector Policy and Strategy for BiH. The both documents were drafted in 2007, but the process of its adjusting is still ongoing.

The vision articulated for the Transport Sector of Bosnia and Herzegovina is as follows:

- An efficient, cost-effective transport system that serves the needs of the people and the economy and contributes to the country's social and economic growth and development by utilizing the benefits of each mode of transport at the lowest possible cost, while ensuring the highest possible level of safety and the highest possible quality of service.
- A market-driven, competition-based, development process in which service users will be protected from monopolies by an adequate regulatory framework that ensures that no individual service provider or mode of transport is favoured over any other.
- A transport system that is fully harmonized with the regulations and standards of the European Union and rules of the World Trade Organization (WTO).

The Governments in BiH have also been supported by EU and International Financial Institutions (IFIs) through the following different (transport related) project types:

- ✓ Harmonization of transport laws (and bylaws) with European legislation and standards and strengthening of institutions in transport sector (e.g. Twinning Assistance to the Ministry of Communications and Transport of Bosnia and Herzegovina in Implementation of the Bosnia and Herzegovina Law on Railways);
- ✓ Renewal and upgrade of the existing transport infrastructure (e.g. rehabilitation of roads and railway network, marking of the Sava River);
- ✓ Preparation and implementation of new transport infrastructure projects (e.g. Motorway on Corridor Vc through BiH, Čapljina - Podgorica railway line and so on).

2.1.1 The overall Transport policy framework

Bosnia and Herzegovina's Transport Policy should foster economic and social development of the country enabling sustainable development of the BiH transport system. So, increasing the mobility of goods, capital and people in a new, global transport-sector environment (characterized by globalization, deregulation, free markets, integration, and so on), have been defined as the main objective. To achieve this, each mode of transport as well as intermodal and combined transport systems must contribute and meet the specific objectives:

- ✓ Meet social and economic requirements.
- ✓ Provide the best level of services at the lowest possible cost.
- ✓ Satisfy safety and information requirements.
- ✓ Be financially sustainable through a mixture of user charges, general budgetary resources and private sector involvement in the maintenance, improvement and development of transport infrastructure.
- ✓ Comply with EU standards and regulations.
- ✓ Have a minimal environmental impact.

This means that social, economic and environmental benefits of each mode of transport should be recognized, ensuring the highest possible level of quality. Moreover, the transport system should be based on a healthy competition, where all participants will be protected by an adequate regulatory framework fully harmonized with the regulations and standards of the EU.

The main objective of "Protocol on Land Transport", as an integral part of SAA, is to promote the cooperation between BiH and EU on land transport (particularly on transit traffic) and to ensure that the land transport between and through the territories of BiH and EU is developed in a coordinate manner. The Protocol also includes the specific section called "Rail and Combined Transport", which stipulates the adoption of coordinated necessary measures by BiH and EU for the development and promotion of rail and combined transport. This section of the Protocol also refers to the aspects of infrastructure in particular to the capacity improvements required to support such development, which may call for substantial investment. However, EU is ready to support this over its financial institutions and lending instruments including the additional resources, which is also clearly expressed in this Protocol.

As long as the country transportation sector does not reach required development level, the regional development is expected to be basis for gradual transition towards European integrations. In that light, BiH participate in South East Europe Transport Observatory (SEETO), which is established by the Memorandum of Understanding for the development of the Core Regional Transport Network (MoU) in 2004. SEETO is a shared platform for governments of Western Balkans Countries and the European Commission to identify development priorities on the "core regional transport network".



SEETO Core Regional Transport Network

Source: <http://seetis.seetoint.org/TISWEBseeto/main/fsMainDefault.aspx>

BiH has also been successful in implementation of the Common Aviation Area (ECAA) Agreement.

2.1.2 The elements of Transport research policy making

There is no national research strategy and the best way to describe research sector in the country is to quote findings from the "Bosnia and Herzegovina 2008 Progress Report": "There is no integrated research policy and budgetary allocations to support research are very limited. Research policy is still designed and implemented at Entity level, with no real coordination. No progress has been made on

preparing a country-wide policy. The research infrastructure remains poor. Preparations have started in the area of education and research. Sustained efforts remain necessary.”

2.2 Overview of Transport research activities

The most of the R&D projects in the country have been performed by Universities. BiH scientific-research organisations participated as partners (within consortia) in Fifth and Sixth Framework Programs (FP5 and FP6). However, out of 46 successfully completed projects and 21 still in the process of implementation, where organizations from the country have participated, there was not a single transport research project.

That means all transport research project in the country mostly depend on limited Governments' budget resources and private companies' funds. It is estimated that international sources participate with just 10% in funding of transport R&D activities in BiH. Appendix 2 of this Report gives review of budget allocations in 2007 for both Entity ministries (Ministry of Science and Technology of RS and Ministry of Education and Science of FBiH).

The National Institute for Accreditation (BATA) has so far granted 14 testing laboratories, five calibration laboratories, two certification bodies and eleven inspection bodies. Unfortunately, none of these are transport research related. Moreover, the existing researchers' databases are not well organized (e.g. www.registar.nub.ba), so it is hard to find the key players in the sector.

The most important relevant institutions (political, administrative, higher education, public/private research institutions) in the country:

	Name	Postal address	Web-site
1.	Ministry of civil affairs of BiH	TRG BiH 1 71000 Sarajevo (Bosnia and Herzegovina)	www.mcp.gov.ba
2.	Ministry of Education and Science of FBiH	Stjepana Radića 33 88000 Mostar (FBiH – BiH)	www.fmon.gov.ba
3.	Ministry of Science and Technology of RS	Trg Republike Srpske 1 78000 Banja Luka (RS - BiH)	www.vladars.net
4.	University of Sarajevo Mechanical Engineering Faculty IC Engines and Vehicles	Vilsonovo šetalište 9 71000 Sarajevo (FBiH - BiH)	www.mef.unsa.ba
5.	University of Banja Luka Mechanical Engineering Faculty	Vojvode Stepe Stepanovića 75 78000 Banja Luka (RS - BiH)	www.masinstvobl.rs.sr
6.	University of Sarajevo Civil Engineering Faculty	Patriotske lige 30 71000 Sarajevo (FBiH - BiH)	www.gf.unsa.ba
7.	University of Sarajevo Faculty of Traffic and Communication	Zmaja od Bosne 10 71000 Sarajevo (FBiH - BiH)	www.fsk.unsa.ba
8.	Faculty of Traffic Doboj	Vojvode Mišića 52 74000 Doboj (RS - BiH)	www.stf.fantasticno.com
9.	IPSA Institute Sarajevo	Put života bb 71000 Sarajevo (FBiH - BiH)	www.ipsa-institut.com
10.	Civil Engineering Institute "IG"	Kralja Petra I Karađorđevića 92-98 78 000 Banja Luka (RS - BiH)	www.institutig.com
11.	CETEOR Sarajevo	Put života bb 71000 Sarajevo (FBiH - BiH)	www.ceteor.ba

2.3 Key drivers of Transport research

Restructuring of the transport sector in the country, including introduction of a sound transport infrastructure projects funding and harmonization of existing laws and bylaws toward the EU "Acquis", have been started (e.g. implementation of so called "the First and the Second Railway Package" for the railway sector). This process (supported by EU) should enable more efficient transport operations based on market mechanisms, resulting with a cost efficient transport system.

On the other hand, as the important role of transport in future social and economic development of the country has been recognized, one of the biggest challenges for Governments in BiH for the next period should be to ensure institutional and financial sustainability of the entire sector.

The priorities on a higher, regional level have already been defined through MoU and in TEM and TER Master Plan³. Furthermore, the Entities' Governments have been developing transport infrastructure strategies (setting up the priorities on the Entity level). However, in spite of significant investment during the last decade, the overall condition of transport infrastructure in the country is still not at a satisfying level:

- ✓ There are just some 28 km of modern motorways in operation;
- ✓ On the most of the railway network, train speed is limited to 70 km/h for passenger trains and to 50 km/h for freight trains;
- ✓ There are no modern transshipment terminals in the country;
- ✓ The most of the infrastructure in the river ports is obsolete.

Therefore, the transport infrastructure reconstruction and development will stay among top priorities in the sector for the following period. Adequate allocation of competencies among the Governments in the country is a prerequisite for coordinated development of transport infrastructure (as stated in "The Protocol of Land Transport").

Transport demand has been growing recently, so another challenge for the Governments in the country would be sustainability of the entire transport system, respecting numerous social and environmental aspects.

For example, the road vehicles ownership in the country is relatively high (780 000 registered road vehicles in 2007), but at the same time, road safety is far behind desired level (430 people were killed and almost 12 000 people injured in road traffic accidents in BiH in 2007). This means that positive effects of increased mobility have been decreased by socio economic impacts of road accidents.

Finally, once achieved improvements of transport system (including river Sava navigation) should initiate development of intermodal transport in the country fostering the benefits of each mode of transport (at the lowest possible cost).

The other open issues include transport infrastructure management and traffic management, especially improvement of urban mobility.

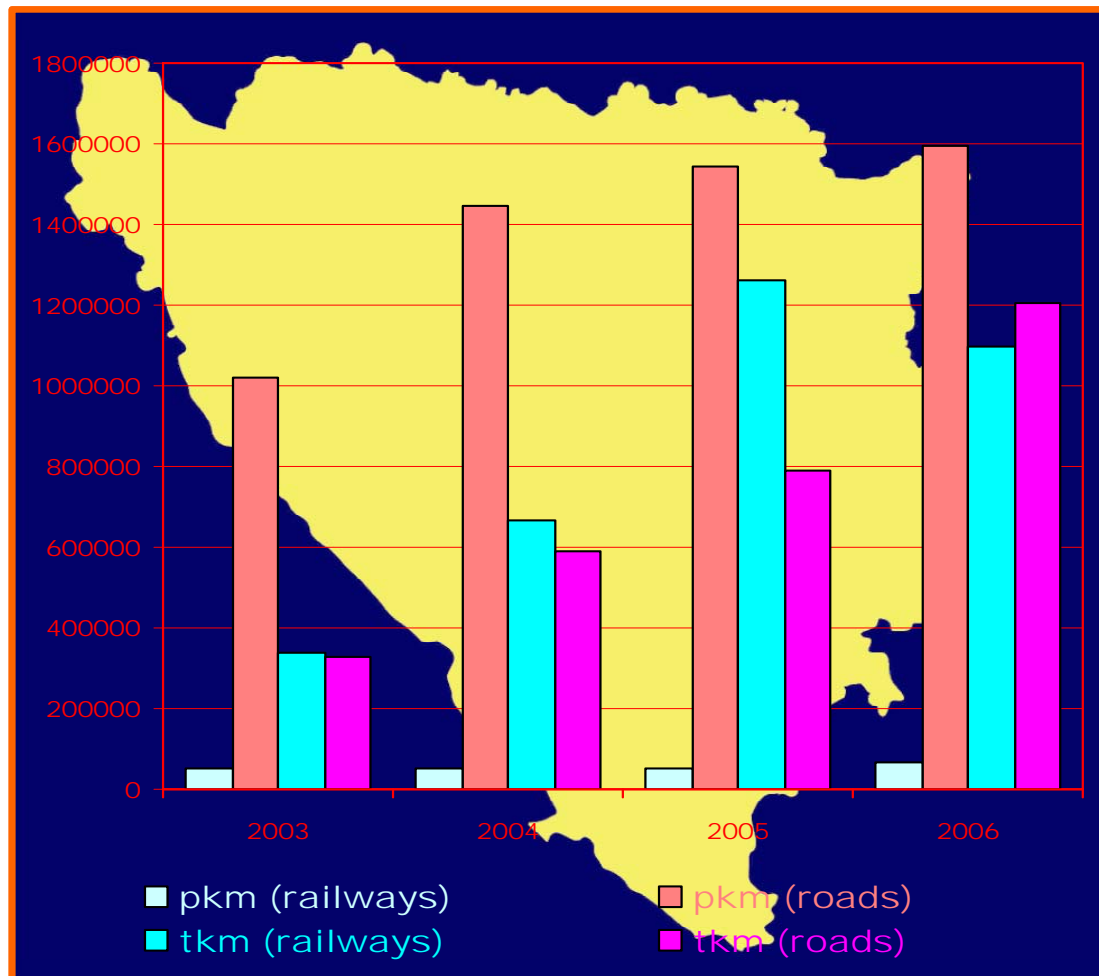
2.3.1 Main Transport sector trends in Bosnia and Herzegovina

Almost all of the goods in the country have been transported by roads or by railways. General remark would be that recently, railway freight transport becomes competitive to road haulage (especially comparing density of the road and railway networks in the country and having in mind the fact that in 2000 more than 90 % of goods were transported by roads). Air Cargo and waterborne freight transport volumes are extremely low and intermodal transport in Bosnia and Herzegovina almost does not exist.

On the other hand, the road passenger transport in the country is relatively well developed and represents a strong competitor, especially for the railways. Air passenger transport has been developing well recently, but there is still a lot of space for improvements. Urban mobility issues stand

³ United Nations Economic Commission for Europe: Trans European Motorways (TEM) and Trans European Railways (TER).

at the bottom of priorities, but effects of potential improvement measures in context of sustainable development should not be underestimated.



Comparison of rail and road transport indicators in BiH (2003-2006)

Source: Agency for Statistics of Bosnia and Herzegovina; FBiH-Federal Office for statistics; Institute of Statistics of RS

The main transport corridor in the country is branch c of the fifth Pan-European Transport Corridor. It includes:

- ✓ E-73 Road: Šamac - Doboj - Sarajevo - Mostar - Capljina - Doljani (until the Motorway in Corridor Vc through Bosnia and Herzegovina construction complete),
- ✓ Railway line Samac - Doboj - Sarajevo - Mostar - Capljina - Metkovic,
- ✓ Airports Sarajevo and Mostar,
- ✓ Waterways and ports on Sava, Bosna and Neretva.

It has been estimated that in the Corridor V area live 50% of Bosnia and Herzegovina population, which create almost 60% of national GDP⁴. With the expected increase of transport demand in the region, this corridor should be one of the main connections of Adriatic sea with Corridor X (this so called "Balkans Axis", connect regional centres Ljubljana, Zagreb and Belgrade) and Corridor VII (Danube river) in Budapest, should contribute to better competitiveness of the country.

Motorway in Corridor Vc through BiH is designated as a "National Development Project". This implies realization within the earliest possible timeframe. The future Motorway in Corridor Vc through BiH extends over roughly 336 kilometres and according to the provisional implementation plan⁴ it should be completed by the end of 2018. Today, there is just a 28 km long section in operation (Jošanica – Dobrinje) and until the end of 2009 this motorway will be extended for another eight kilometres to north (Kakanj).

⁴ Feasibility Study for Motorway in Corridor Vc through Bosnia and Herzegovina.



Pan-European Transport Corridor 5

Source: <http://www.unece.org/trans/main/ter/Countries/Corridors/corr5.jpg>

The Law of Roads classified roads in BiH into three types: a main (trunk) road, regional roads and local roads. Trunk road network in BiH is 3788 km long, while the regional road network totals some 4800 kilometres. The road network in the country was developed in an attempt to maximize paved surface, but with modest technical standards and often passing through the cities and villages. Moreover, the years of underinvestment in roads maintenance was often practiced (especially during the 1990's). As a consequence Bosnia and Herzegovina Road Network today is not in the best condition. The next table, which confirm what was stated, is a result of inspection of more than 6000 of roads in the country (all trunk roads and approximately two-thirds of regional roads, where the worst sections in terms of condition were excluded from the inspection).

Road Category	Road Condition (kilometres) (1)			
	Good	Fair	Poor	Total
Trunk	1,865	1,180	641	3,686
Regional (2)	1,035	848	513	2,396
Total	2,900	2,028	1,154	6,082
Percentage of Total	47,7%	33,3%	19,0%	100,0%

(1) International Roughness Index (IRI) values: Good <3; fair 3-4.5; poor >4.5.

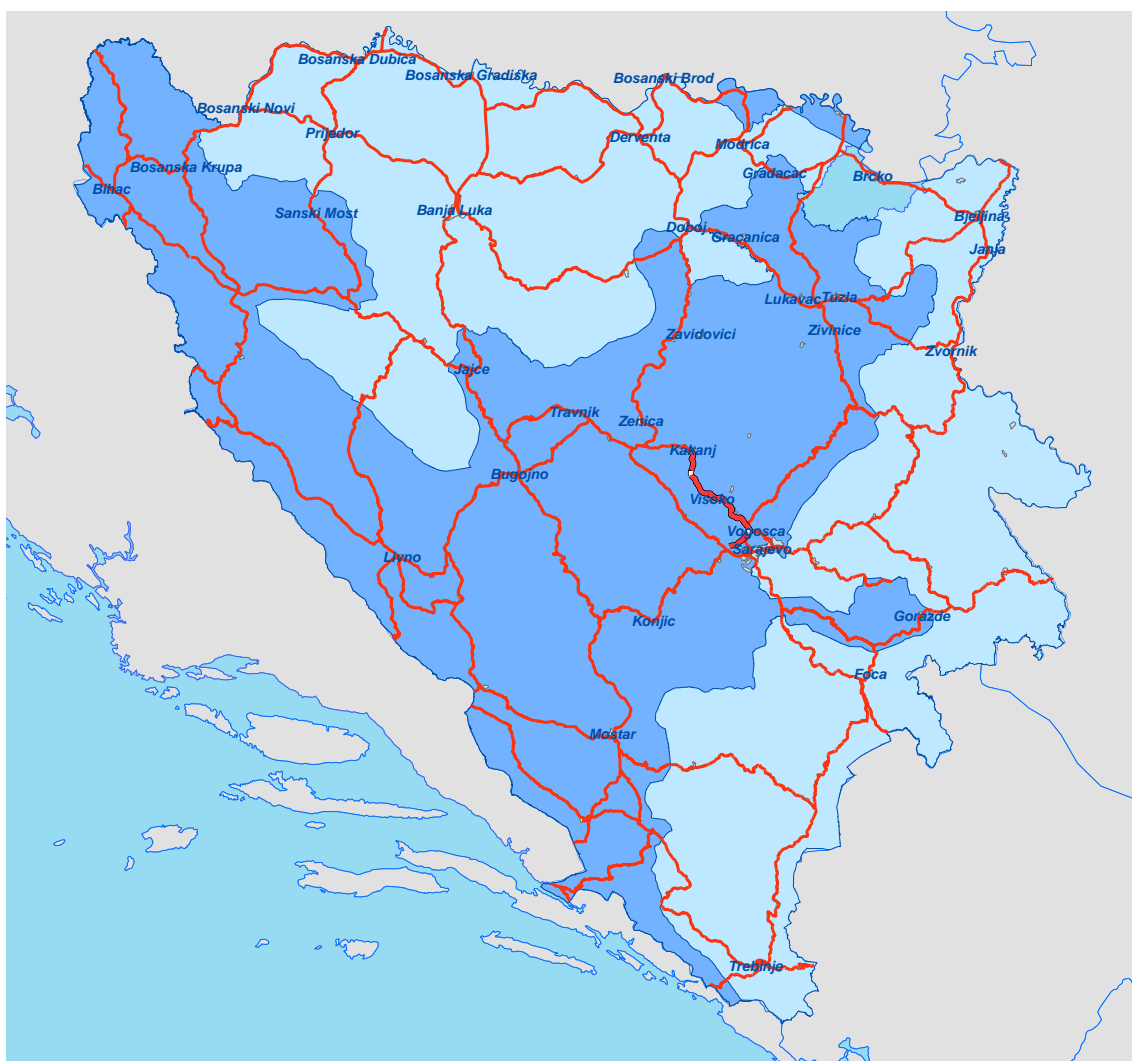
(2) Approximately two-thirds of regional road network included, with the worst sections in terms of condition excluded.

Condition of BiH Main and Regional Road Network in 2004

Source: Bosnia and Herzegovina Road Management and Safety Project, BCEOM, 2004

The trunk road network density is just 7.6 km/100 km² and the following figure present trunk road network in the country. The both entities are impending main road network rehabilitation programs,

which are financially supported by IFIs (e.g. “Bosnia & Herzegovina Road Rehabilitation Project”⁵). However, the main focus in recent years within both Entities has been the construction of motorways. So, the both entities have also prepared strategies for development of motorways network in the country (and the Motorway in Corridor Vc through BiH” construction is already under way).



Main roads in Bosnia and Herzegovina

BiH have a poor **road safety** record: More than 400 people get killed in road traffic accidents in Bosnia and Herzegovina and more than 2000 get serious injuries every year. Accidents and accident related deaths causes not only immense losses for the families of killed and injured people, but also produce high costs to the society, so road safety should be considered as a wider social problem.

Year	Killed	Serious injuries	Slight injuries
2005	386	2041	7374
2006	424	2107	8166
2007	430	2418	9471
2008	434	2385	9499

Road safety records for Bosnia and Herzegovina (2005-2008)
Source: Agencies for statistics in BiH, FBiH and RS

⁵ For more details see: <http://www.ebrd.com/projects/psd/psd2007/37543.htm> .

Vehicle ownership is considered an excellent surrogate measure for road traffic growth. The following data was collected and presented by “Bosnia and Herzegovina auto-motive club” in its annual report. In 2008, A total of 525724 vehicles (85.1 percent thereof being passenger cars), were registered in FBiH, 272570 in RS and 27321, resulting in a country-wide total of some 882783 vehicles (84.1 percent thereof being passenger cars). So, 192 passenger cars per 1000 persons were registered in BiH in 2008. Within the EU context, in 2006, this number was lowest for Slovakia (247), while Luxemburg had the highest vehicle ownership that year (661). In 2008, eight percent of all registered vehicles in the country were heavy goods vehicles.

Year	Number of registered road vehicles	Annual growth rate
2003	646.658	-
2004	695.828	7,6%
2005	705.827	1,4%
2006	769.682	9,0%
2007	778.474	1,1%
2008	881.389	13,2%

Registered road vehicles in Bosnia and Herzegovina (2003-2008)

Source: http://www.bihamk.ba/dokumenti/statistike/informacija_registracija_2008.pdf

The average use of BiH vehicles is not known with certainty at the moment (it has been estimated to 10 - 15000 km annually).

Railway network in BiH is 1030 km long and it is basically composed of two main railway lines:

- ✓ The North-South direction railway (Bos.Samac/Samac-Doboj-Zenica-Sarajevo-Mostar-Capljina) is a part of Pan-European Corridor V, branch c. “Corridor Vc Railway Line” is connecting Budapest with Croatian port of Ploce and intersecting Pan-European Corridor X railway (section Zagreb-Belgrade).
- ✓ The West-East direction line (Dobrljin)-Bos.Novi/Novi Grad-Banja Luka-Doboj-(Tuzla)-Zvornik is so called “Railway line parallel to Pan-European Corridor X”.

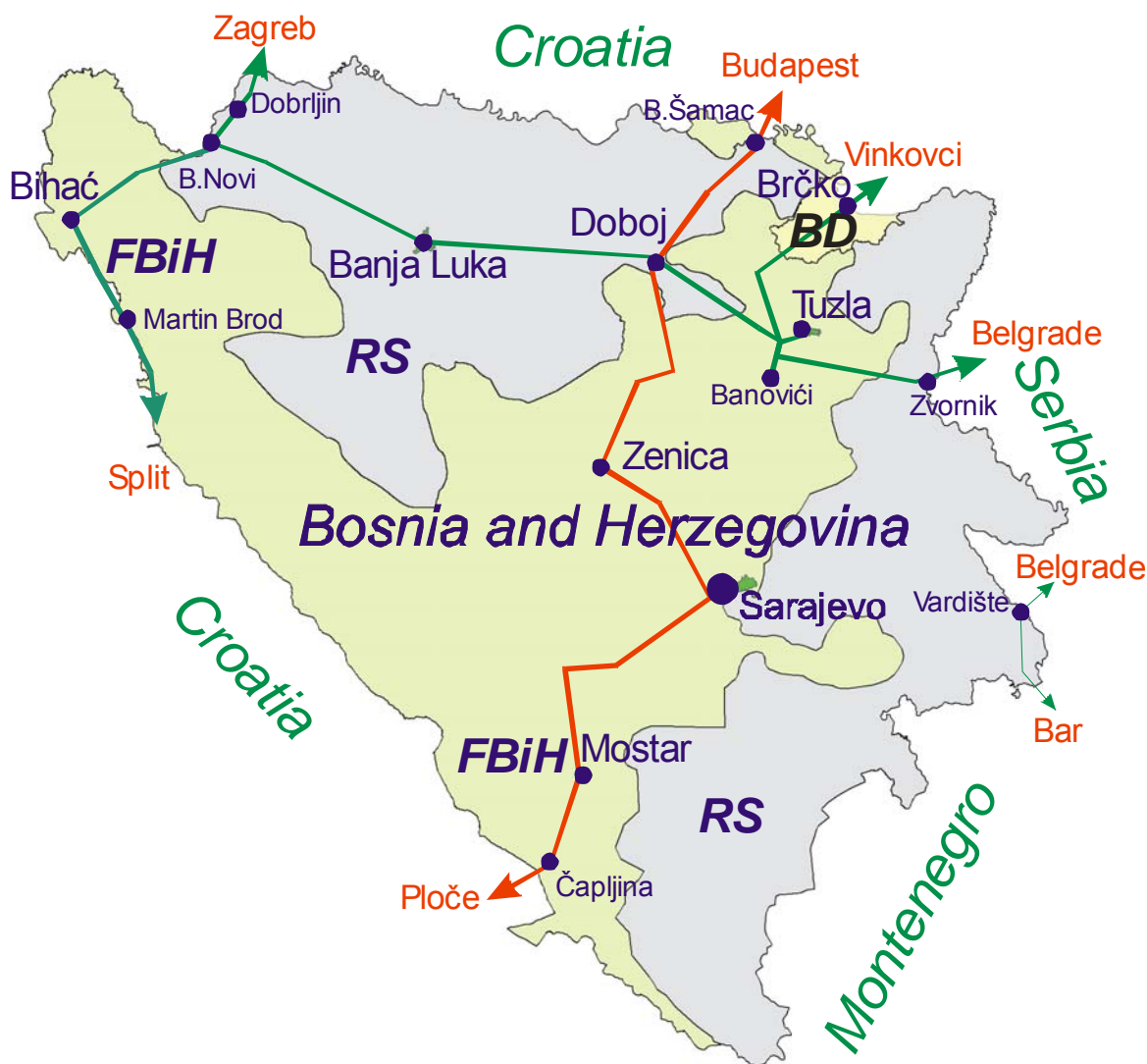
The rest of the network consists of branch lines. Two most important branch lines are Brcko-Banovici (connecting river Sava port of Brcko and coal mine Banovici with the rest of the network) and so called “Una railway line” (a section of railway line Zagreb – Bihac – Split).

Railways of Republic of Serbia organize traffic and maintain 9.3 km long section of railway line Belgrade – Bar (Port in Monte Negro) which is passing through BiH.

The most of the network was constructed in period 1946-1968. Geometric parameters were enabling maximum speed up to 100 km/h in the pre-war period. There is also a mountainous section on Corridor Vc railway line from Bradina to Konjic, which was constructed with marginal design parameters ($R_{min}=250$ m, $i_{max}=25\text{‰}$), so the maximum allowed speed for this section is 60 km/h.

The network is based on standard gauge, and most of the tracks (more than 85% of the network) are classified as D4 (UIC). All of the lines are single-track, except an 87 kilometres long double-track section Doboj-Zenica (Jelina) of the Corridor Vc Railway Line. Some 75% of the network is electrified with mono-phase (25kV, 50Hz) AC system.

Railway network in BiH is relatively undeveloped (just over 2 kilometres of railways per 100 km²). Moreover, due to bad condition of infrastructure, capacity on some sections is close to its limit (e.g. section Semizovac – Rajlovac - A.Most on Corridor Vc Railway). Years of irregular railway infrastructure maintenance are the main cause for poor performance on the most of the railway network in the country today (e.g. maximal passenger train speed on more of 90% of the network is 70 km/h). The following figure gives an overview of the railway network in the country.



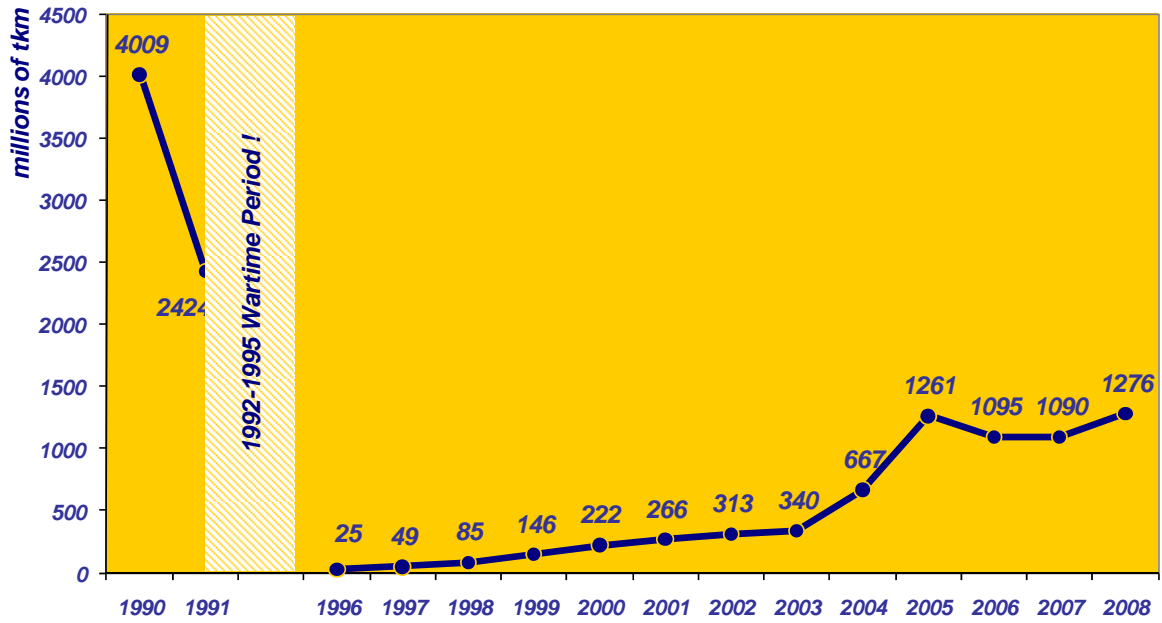
Railway Network in Bosnia and Herzegovina

Both entities established railway undertakings, which are at the same time railway infrastructure managers and railway operators. The both railway undertakings provide railway freight and passenger transport, including train traction. Since 2003, two undertakings jointly operate international passenger and freight trains on the BiH railway network. Railway undertakings organize international railway passenger and freight transport over six border stations.

The ongoing re-organization of both railway undertakings aims the separation of the accounts between infrastructure and operations. This can be considered as a first step toward implementation of EU legislation for the railway sector in line with Vision and Objectives, which are defined in Bosnia and Herzegovina Transport Policy.

In period 1996-2003 railway freight transport in BiH was slowly but steady recovering from the dramatic wartime period consequences. Most of the transport in that period was related to bulk commodities, traditionally transported by railways (e.g. coal, timber, ore, etc.). In last few years, there was a significant increase of the railway freight transport volume (e.g. average annual increase in net tkm in period 2003-2005 was more than 90%), caused by increased transport demand of the biggest users of the railway transport service in the country and by improvement of the railway infrastructure elements.

Freight transport - BiH Railway Undertakings

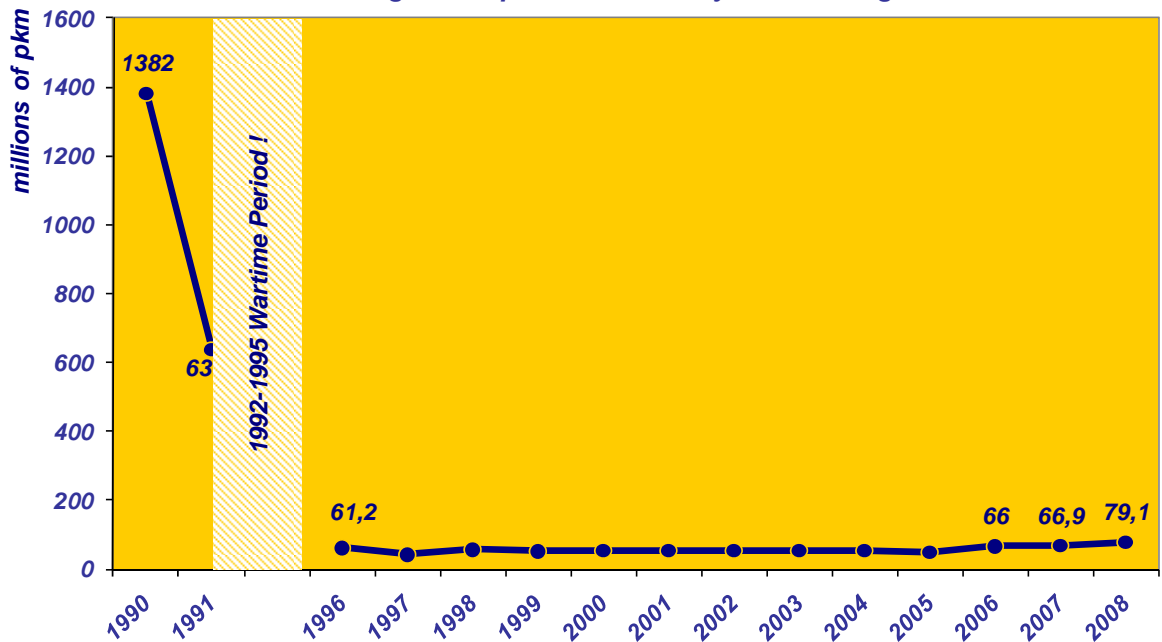


Railway freight transport in Bosnia and Herzegovina 1990-2008
 Source: Agency for Statistics of Bosnia and Herzegovina; FBiH-Federal Office for statistics; Institute of Statistics of RS

The main reasons for low volumes of the railway passenger transport probably lie in the following:

- ✓ Inefficient organization of passenger trains timetable / Lack of market research;
- ✓ Low demand for the railway passenger transport;
- ✓ Insufficient and obsolete passenger transport rolling stock fleet;
- ✓ Poor condition of the railway infrastructure (on some sections) resulting in inappropriate travelling times (e.g. in 2006 average commercial speed of a passenger train was 45.6 km/h on the FBiH part of the network, and 40.41 km/h on the RS part of the network).

Passenger transport - BiH Railway Undertakings

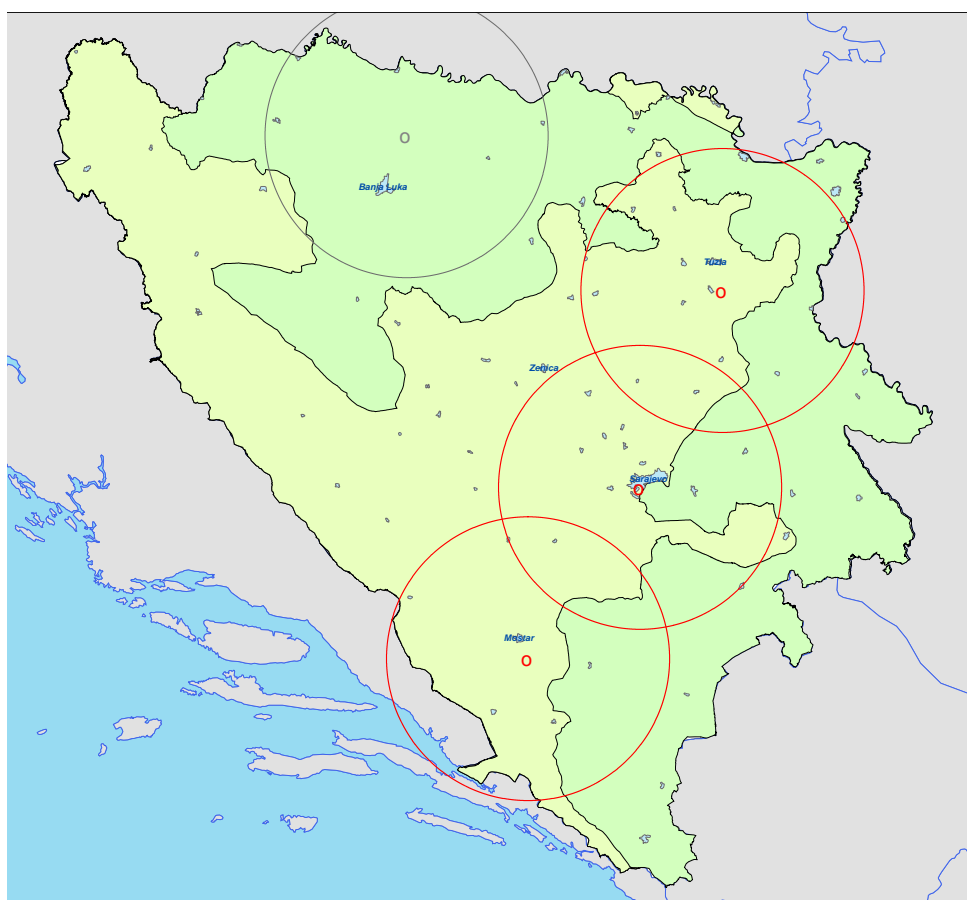


Railway passenger transport in Bosnia and Herzegovina 1990-2008
 Source: Agency for Statistics of Bosnia and Herzegovina; FBiH-Federal Office for statistics; Institute of Statistics of RS

BiH declared EU accession as a strategic priority, so the railway sector primary objective should be to harmonize institutional framework and legislation with the “Acquis” (related to the railway sector). A recent Study⁶ prepared by DB international and associates have once more approved importance of urgent track overhaul including improvement of technical parameters.

“Bosnia and Herzegovina Regional Railway Project”, which is currently ongoing support not only the restructuring of the railways in BiH, facilitating transition, but also track renewal, including rehabilitation of station signalling system, electric power stations and contact line, as well as basic communication equipment installation⁷. According to the relevant Studies’ results, construction of new railway lines should not be expected before 2015.

The main **civil aviation** activity in BiH is passenger transport. Over the six years from 2001-2006, a total of 2.5 million passengers flew into and out of BiH on commercial air carrier services. Sarajevo accounted for 90 percent of these passenger volumes, more than 12 times higher than Banja Luka’s 7 percent share. Mostar and Tuzla passenger volumes represented about two and one percent of BiH total airline passengers respectively. The similar situation remains until today, with a remark that in last two years there haven’t been any commercial flights from/to Tuzla international airport.



International airports in Bosnia and Herzegovina

Aircraft handling capabilities, defined by International Civil Aviation Organization (ICAO) standards are the following: 4C for Mostar, 4D for Sarajevo and Tuzla and 4E for Banja Luka. According to TRANSEC Study findings: “The project components which need to be addressed in the coming five years (2007-2012) envisage ECAA liberalization implementation continuing up through 2009, with the following three years seeing robust commercial activities occurring in BiH. Therefore, to meet the ICAO standards with respect to safety and security as soon as practicable and to ensure future international demand and growth of traffic have been labelled as priority projects.”

⁶ “Study on TER Compliant Railway Corridor Vc in Bosnia and Herzegovina”, 2008.

⁷ For more details see: <http://www.ebrd.com/projects/psd/psd2005/35418.htm> .

Development of **multimodal transport** in BiH is strongly dependant on development of railway and **inland waterways** transport. Moreover, strong political will is desired for preparation and realization of strategic documents what would contribute to creation of better environment for foreign investments required for intermodal centres planning, design and construction. The following figure present findings from a recent Study on intermodal transport in BiH funded by European Commission.



International multimodal corridors in BiH - Priorities

Legend: red lines – railway transport, blue lines – inland waterways transport

Source: Study on intermodal transport in Bosnia and Herzegovina

2.3.2 Main socio-economic challenges in Bosnia and Herzegovina

According to BH Agency for statistics, the nominal value of the Gross Domestic Product (GDP) in 2007 was KM 21.64 billion, what is a 13.2% of a nominal growth (compared to 2006). The estimated growth rate of the real GDP was approximately 6.8%, so the growth trend from previous years has continued. "This growth rate is at the same level as in comparable transition countries and indicates gradual real convergence with the EU, but with a still considerable gap (approximately 33% of average GDP of EU25) in relation to the EU countries' levels."⁸

Table 2.1: Gross domestic product (GDP) of Bosnia and Herzegovina (current prices)

	2003	2004	2005	2006	2007
Nominal GDP (in millions KM)	14,505	15,786	16,927	19,121	21,647
Nominal GDP (in millions USD)	8,367	10,020	10,763	12,262	15,143
GDP per capita (in KM)	3,785	4,109	4,405	4,976	5,634
GDP per capita (in USD)	2,184	2,607	2,800	3,181	3,941
Population (in thousands)	3,832	3,842	3,843	3,843	3,842
Annual average exchange rate KM/USD	1.7335	1.5755	1.5728	1.5594	1.4295
Real GDP (growth rate in %)	3.0	6.3	3.9	6.7	6.8

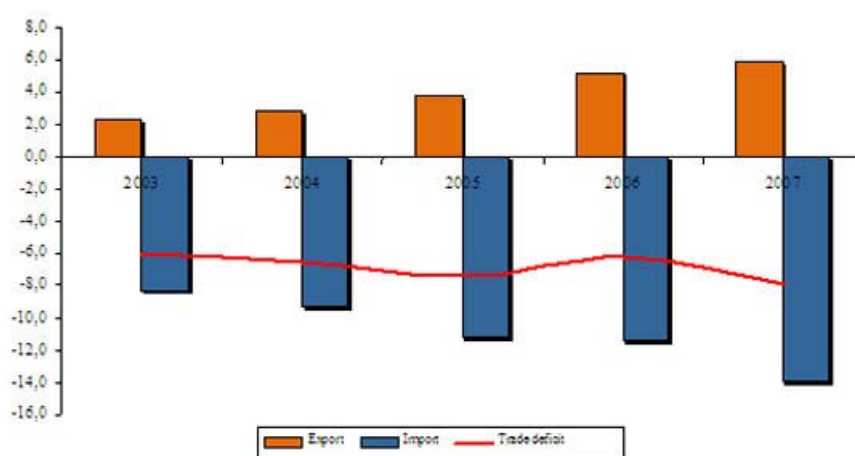
Source: Agency for statistics of BiH "Thematic Bulletin 10: National Accounts", Sarajevo 2008

⁸ CBBH: 2007 Annual Report

The monetary policy of the Central Bank of Bosnia and Herzegovina (CBBH) still remains under the currency board arrangement (*Euro* as the anchor currency) and high growth of real GDP in the last couple of years (see Table 2.1) have been stimulating both consumption and investment in the country. On the other hand, growing trade deficit and the significant increase in public spending generate disproportion in the current account, creating the additional (external) financing needs. So, e.g. the BiH trade deficit has risen in 2007 for more than 20% compared to the previous year.

Table 2.2: Import and export figures

Exported from BiH to	2003	2004	2005	2006	2007
EU 27	51,0%	53,4%	54,7%	59,7%	57,3%
CEFTA	35,0%	38,6%	37,2%	32,9%	35,8%
Other countries	14,0%	8,0%	8,1%	7,4%	6,9%



Imported in BiH from	2003	2004	2005	2006	2007
EU 27	55,7%	50,7%	53,9%	53,0%	47,8%
CEFTA	25,9%	28,4%	27,9%	28,0%	29,1%
Other countries	18,4%	20,9%	18,2%	19,0%	23,1%

Source: CBBH

The private sector's contribution to GDP stands low, while privatization of state-owned companies has not been completed yet and the most important trading partners of BiH are European Union and the countries implementing Central European Free Trade Agreement (CEFTA) - (see Table 2.2).

The Government's Second Economic and Fiscal Programme for 2008-2010 aimed to consolidate the fiscal position and to improve the quality of public finances, but concrete policy measures (with the exception of National Fiscal Council inauguration) are still missing and the budgets adopted since, have not been in line with the above stated. As a consequence, "fiscal risks are mounting, in particular in the Federation of BiH, where large commitments on social spending were made in a context of decelerating budget revenues. In addition, the public sector wage policy has been relaxed at all government levels through wage increases and wage indexation mechanisms that weaken fiscal sustainability and external competitiveness."⁹

⁹ EC Working Document: Bosnia and Herzegovina 2008 Progress Report

In addition, global financial crisis have already started to reflect on BiH economy, mostly sectors of building/construction and industry. Following the previously presented brief analysis of main socio-economic challenges in BiH, for purpose of getting a wider picture, there is also given a fragment from "The World Bank / Bosnia and Herzegovina / Country Brief 2008".

BOX 1: The most pressing economic reform challenges can be classified into two broad categories:

** **Improving competitiveness and fostering private sector-led growth.** Faster reforms are needed for Bosnia and Herzegovina (ranked 119th by Doing Business 2009) to compete with other transition economies, as it strives for deeper integration into European and global markets. These reforms include faster registration of businesses, an improved inspection system, effective implementation of bankruptcy laws, and further privatization of strategic enterprises. The government should continue with the reforms of the tax system and should particularly aim to reduce the rates of social contributions. Further efforts towards the creation of a single economic space and a single domestic market are also needed.*

** **Improving the effectiveness and efficiency of public spending** should also be made a priority. Existing expenditure levels are too high and their structure is largely neither growth nor poverty-reduction oriented. The composition of spending can be improved by introducing better control of the public wage bill, improving the targeting of social assistance to benefit the most needy, and increasing the efficiency and level of public investments. Above all, the efficiency of spending should be enhanced through better controls and performance-based budgeting. To improve public sector efficiency, fiscal coordination ought to be strengthened between various levels of government. The capacity of public administration also ought to be strengthened should it be able to cope with these challenges.*

3. Integration of Bosnia and Herzegovina in the European Research Area in the field of Transport

ERA „is a vision about coordinating national research activities and policies and creating an internal market for research with the free circulation of researchers, ideas and technology“.¹⁰ On November 24, 2008 Bosnia and Herzegovina and EU signed Memorandum of Understanding (MoU) on the association of Bosnia and Herzegovina to the "Seventh European Framework Programme".

National Contact Point in BiH for EU Framework Programmes has been established. This Project supported by the Austrian Development Cooperation, Open Society Fund BiH and Ministry of Civil Affairs of BiH should foster integration of Bosnia and Herzegovina into the European Research Area.

¹⁰ EC COM(2007)161: Green Paper 'The European Research Area: New Perspectives'

4. SWOT analysis of the Transport research capacity in Bosnia and Herzegovina

4.1 Strengths

Established National Contact Point (NCP): responsible for the provision of information and advice on participation of BiH researchers from academia and industry, in Europe's largest fund for research and technological development - European Framework Programme for RTD.

R&D Institutions are willing to improve the current situation: all stakeholders are ready to support development of transport research in the country.

4.2 Weaknesses

Strategic approach is Missing: There is no strategy (neither National nor Entity) for development of R&D in transport sector.

Insufficient and fragmented funding:

- ⊕ There are no dedicated funding schemes for R&D;
- ⊕ The existing funding schemes are not integrated and allocation of resources is not coordinated between different levels.

Poor research infrastructure, especially for technological R&D.

4.3 Opportunities

Memorandum of Understanding on the association of Bosnia and Herzegovina to the Seventh European Framework Programme enables:

- ⊕ Dedicated funding (without the country budgets' restrains);
- ⊕ International cooperation of researchers from the country;
- ⊕ Identification and dissemination of EU best practices.

4.4 Threats

Global financial crisis

5. Transport research priorities for Bosnia and Herzegovina

5.1 Transport Research priorities on the basis of the country's readiness*

5.1.1 Road Traffic Safety Improvement

More than 400 people get killed in road traffic accidents in the country. Socio economic costs of road traffic accidents are significant (up to 2% of GDP in some European countries). On the other hand, there are appropriate human resources and research infrastructures ready to pursue basic research and development in the country e.g. statistical analysis of existing road traffic accident data, "black spots" (road sections, intersections and tunnels) audits etc.

5.1.2 Mitigation of Transport Related Environmental Impacts

Transport is one of the biggest sources of unwanted noise, especially in the urban areas. Moreover, transport significantly contributes to air pollution (including greenhouse gas emission). Although, there have been a lot of transport infrastructure projects in the country, where mitigation measures are proposed, the existing level of applied measures is not satisfying. As some of the key R&D institutions in the country already have the equipment for noise level and air quality measuring, this could be the starting point of research in this area.

5.1.3 Improvement of Urban mobility

It is estimated that around one third of BiH population live in urban areas. Transport infrastructure in urban areas has not been developed in line with growing motorization and mobility in the country. So, comprehensive urban transport study would be prepared (for Sarajevo and Banja Luka as soon as possible) aiming to provide quality public transport solutions (e.g. integration of rail passenger transport into a sustainable urban transportation system). The local researchers have already participated in preparation of numerous traffic studies using the methodology and tools (software) recommended by research institutions from EU.

5.2 Transport Research priorities on the basis of future potential**

5.2.1 Intermodal Transport Development

Albeit the most of the freight in BiH has been transported by land, a recent study¹¹ results have shown "de-facto non-existence of intermodal transport in the country". Experiences from abroad would be more than welcome in order to continue work on development of intermodal transport in the country. The regional cooperation would be important in process of defining WBC Intermodal Terminals Network on the basis of transport volume forecasts and analysis.

5.2.2 Transport Infrastructure Management

Research on improvement of infrastructure and asset management, introduction of new concepts of design, construction and maintenance as well as new technologies (e.g. information systems for road condition) has been ignored so far. This should change in the following period and the regional cooperation projects could be the key to start the knowledge transfer in this area.

5.2.3 Traffic Management

Introduction of Intelligent Transport Systems (for management of traffic flows) should improve traffic safety and reduce emission. Optimization of transport networks including parking areas and pedestrians traffic is another area of expertise where regional cooperation should be promoted.

* Definition: **Readiness**: priorities for which the country has the appropriate human resources and research infrastructures in order to pursue research and development

** **Potential**: priorities that are considered attractive for the country and have future potential.

However, the level of readiness and capacity to pursue research and development is currently low.

¹¹ „Study on Intermodal Transport in BiH“ DB International GmbH, Vienna Consult, 2008

Appendix A

List of visited web sites (for the purpose of quantitative assessment)

<http://www.ncp-fp.ba>

<http://www.westbalkanresearch.net/>

<http://www.erawestbalkanplus.net/>

<http://registar.nub.ba>

<http://aida.developmentgateway.org/aida/SearchDo.do?sourcePage=countrySector&iso3=BIH§or=7900>

Appendix B

Funding of R&D activities in Bosnia and Herzegovina

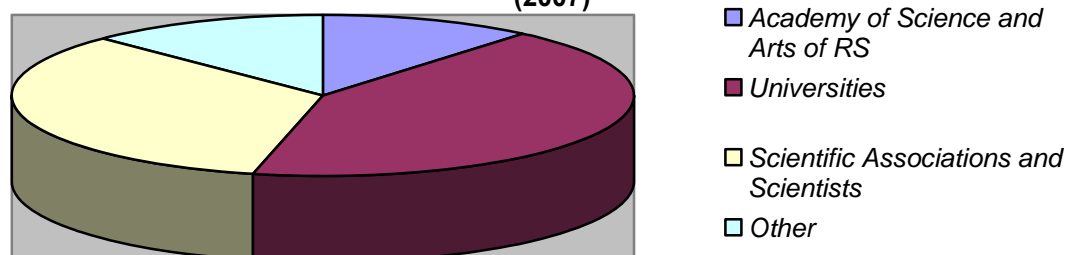
Republika Srpska

B1: Ministry of Science and Technology of RS – Excerpt from Annual Budget for 2007

	Current Expenditures	424.053 KM	216.812 €
614100	Agency for Information Society	410.000 KM	209.627 €
614100	Academic and Research Network of RS - SARNET	1.200.000 KM	613.543 €
614100	Scientific Institutions related Projects: - Academy of Science and arts of RS - Universities - Public and University Library of RS - Scientific/Research Institutes - Scientific Associations and Scientists	2.725.000 KM	1.393.254 €
614100	Technology related Projects - Innovations - Equipment for Technological Development - Other Technology related activities	283.300 KM	144.847 €
	Current Grants	4.618.300 KM	2.361.272 €
	Capital Expenditures	45.000 KM	23.008 €
	TOTAL:	5.087.353 KM	2.601.092 €

Source: <http://www.vladars.net/sr-SP-Latn/Vlada/Ministarstva/mnk/PPP/Pages/GodisnjiPlanIBudzet.aspx>

Current Grants for Scientific Institutions related Projects in RS (2007)



Source: <http://www.gsr-rs.org/izvjestaji/2008/RI025-08.pdf>
(The Supreme Office for the RS public sector auditing)

Federation of BiH

B2: Ministry of Education and Science of FBiH – Excerpt from Annual Budget for 2007

	Current Expenditures	1.680.283 KM	859.105 €
	Current Grants	7.693.482	3.933.570 €
1.	<i>Grants to the other Governments¹²</i>	3.134.389	1.602.570 €
2.	<i>Grants to non-profit organizations</i>	4.559.093	2.331.000 €
	Capital Grants	6.430.000	3.287.568 €
1.	<i>Grants to the other Governments</i>	1.430.000	731.139 €
2.	<i>Grants to non-profit organizations</i>	5.000.000	2.556.429 €
	Capital Expenditures	99.398	50.821 €
	TOTAL:	15.903.163	8.131.062 €

Source: http://saifbih.ba/javni-izvj/budzet/pdf/Izvj_FM_Obr_nauka_2007.pdf
(Audit Office for the Institutions of FBiH)

The biggest grants for the Science in FBiH in 2007 were as follows:

- ⊕ 909.199 KM for scientific/research and R&D projects in FBiH.
- ⊕ 550.000 KM to foster scientific institutions and “research of importance for FBiH”.
- ⊕ 200.853 KM for the scientific/research institutions’ infrastructure (out of 1.772.897 KM total for “the scientific work of importance for FBiH” in 2007).

The rest of the grants presented in the previous table (especially capital grants) have been mostly used for the purpose of Education (e.g. reconstruction of schools, subsidies for students, etc.).

¹² Mostly to the Cantonal Governments (FBiH consist of 10 administration units - Cantons).

Questionnaire for preparation of the National background report

Theme: Transport

Country name: Bosnia and Herzegovina

Contact person: Saša Džumhur

Institution: IPSA Institute Sarajevo

Postal address: Put zivota bb, 71 000 Sarajevo, Bosnia and Herzegovina

Phone: 00 387 33 276 360

E-mail: sasa.dzumhur@ipsa-institut.com

Section A: Main R&D resources in the field of *Transport*

In this section please provide data necessary for identification of main actors.

A 1. List of institutions / organisations: main RESEARCH PERFORMERS in the PUBLIC sector in the S&T field of *Transport* (such as national universities, government laboratories, institutes etc.):

	Name	Postal address	Web-site
1.	University of Sarajevo Mechanical Engineering Faculty IC Engines and Vehicles	Vilsonovo setaliste 9 71000 Sarajevo (FBiH - BiH)	www.mef.unsa.ba
2.	University of Sarajevo Civil Engineering Faculty	Patriotske lige 30 71000 Sarajevo (FBiH - BiH)	www.gf.unsa.ba
3.	University of Sarajevo Faculty of Traffic and Communication	Zmaja od Bosne 10 71000 Sarajevo (FBiH - BiH)	www.fsk.unsa.ba
4.	University of Banja Luka Mechanical Engineering Faculty	Vojvode Stepe Stepanovića 75, 78000 Banja Luka (RS - BiH)	www.masinstvoibl.rs.sr
5.	Faculty of Traffic Doboj	Vojvode Mišića 52, 74000 Doboj (RS - BiH)	www.stf.fantasticno.com

A 2. List of institutions / organisations: main RESEARCH PERFORMERS in the PRIVATE sector in the S&T field of *Transport* (such as national universities, government laboratories, institutes etc.):

	Name	Postal address	Web-site
1.	IPSA Institut d.o.o. Sarajevo	Put zivota bb 71 000 Sarajevo (Bosnia-Herzegovina)	www.ipsa-institut.com
2.	CETEOR Sarajevo	Put zivota bb 71 000 Sarajevo (Bosnia-Herzegovina)	www.ceteor.ba
3.	Civil Engineering Institute "IG"	Kralja Petra I Karađorđevića 92-98, 78 000 Banja Luka (RS - BiH)	www.institutig.com

A 3. Which organisations are responsible for financing R&D in the field of Transport?

	Name	Web-site	Financing R&D– Year 2007: Total amount in national currency (000)	Financing R&D– Year 2007: Total amount in EUR (000)
1.	Ministry of Civil Affairs of BiH	www.mcp.gov.ba	n/a *	n/a *
2.	Ministry of Education and Science FBiH	www.fmon.gov.ba	n/a *	n/a *
3.	Ministry of Science and Technology of RS	http://www.vladars.net	n/a *	n/a *
TOTAL::			n/a *	n/a *

* FOR MORE INFORMATION, PLEASE SEE NATIONAL BACKGROUND REPORT

A 4. How is research performed? (please indicate all that apply)

	Lead participating body (please use numbers from question A 3)	Other relevant bodies (please use numbers from question A 3)
In own institutions	n/a	n/a
Published calls for tenders, open to all researchers	n/a	n/a
Restricted tenders to preferred suppliers	n/a	n/a
Co-funding with other national bodies	n/a	n/a
Co-funding with other countries	n/a	n/a
Other approaches – please fill in: _____	n/a	n/a
Other approaches – please fill in: _____	n/a	n/a
Is support restricted to national bodies (Y / N)		

A 5. R&D capacity* in S&T field:

NOTE: THERE IS STILL NO REPLY FROM FACULTY OF TRAFFIC AND COMMUNICATION SARAJEVO AND CIVIL ENGINEERING FACULTY SARAJEVO, SO THE FOLLOWING DATA IS NOT COMPLETE

	1990	2002**	2007	2015
Total number of research organizations	n/a	8	8	n/a
Of which universities	n/a	5	5	n/a
Of which public research organizations	n/a	-	-	n/a
Of which private research organizations	n/a	3	3	n/a
Number of PhD students graduated	n/a	11	57	n/a
Total number of R&D personnel	n/a	48	93	n/a
Percentage of women in the total number of R&D personnel	n/a	17% (8)	24% (22)	n/a
Total number of employees on a Full-Time-Equivalent (FTE) basis	n/a	35	72	n/a
Total number of researchers	n/a	39	82	n/a
Percentage of women in the total number of researchers	n/a	21% (8)	24% (20)	n/a
Total number of researchers on a FTE basis	n/a	34	71	n/a
Number of researchers with Ph.D. degree or higher	n/a	9	20	n/a
Number of researchers with Ph.D. degree or higher on a FTE basis	n/a	9	19	n/a
Number of researchers under the age of 35	n/a	18	33	n/a
Number of researchers under the age of 35 on a FTE basis	n/a	18	33	n/a

* Please use OECD - Frascati Manual definitions if possible.

** DATA FROM FACULTY OF TRAFFIC IN DOBOJ IS MISSING

A 6. Research infrastructure in S&T field of Transport:**(a) Please assess the physical research infrastructure (without office equipment)**

The R&D institutions in general have an internationally competitive research infrastructure and are able to conduct top research in cutting-edge research topics	<input type="checkbox"/>
The R&D institutions in general have top research infrastructure, the infrastructure enables regular international research co-operation but are not competitive if compared with the 'best in this research field'	<input type="checkbox"/>
The R&D institutions in general have good quality research infrastructure, probably one of the most up-to-date in the country, but are not good enough to join in international research on a regular basis	<input checked="" type="checkbox"/>
The R&D institutions in general have a rather obsolete research infrastructure if compared with international organisations and this is an obstacle to international research co-operation	<input type="checkbox"/>
The R&D institutions in general have a rather obsolete research infrastructure and it is an obstacle to more domestic contracts	<input type="checkbox"/>
The R&D institutions in general have no substantial infrastructure, but they have access to it and can participate in top research both nationally and internationally	<input type="checkbox"/>

(b) Please indicate most important physical research infrastructure in S&T field of Transport:

1. Equipment for measurement of:	2. System for noise and vibration analysis
✓ Internal combustion engines emissions	
✓ The vehicle dynamics	3. Software for:
✓ The ambient noise level	✓ Transportation planning and operations analyses
✓ The air pollutants	✓ Noise and Air Pollution Modelling

A 7. Scientific production and Innovation in S&T field of Transport:

S&T field total (*)	2005	2006	2007
Number of important innovations **	1	1	1
Number of domestic patents granted			
Number of patents granted by the EPO ***			
Number of patents granted by the USPTO ***			
Number of patents granted by the JPO ***			
Number of publications in journals reviewed by the Institute for Scientific Information****	1	1	1

**Important innovation: a new product / process / organisational mode / tool or method had or contributed to an additional turnover of more than EUR 100 thousand or more than 500 people use a new product/process or it saved life or improved the quality of life substantially. The research institutions' contribution is substantial if at least one third of the new knowledge came from the research organisation.

*** EPO: European Patent Office; JPO: Japan Patent Office; USPTO: United States Patent and Trademark Office

**** and thus appears in the Science Citation Index

A 8. Large and/or National R&D projects in S&T field of Transport:

	ongoing /started in 2007	completed in 2007
Number of large R&D projects**	6	
Of which: the number of projects in collaboration with industry	4	
the number of projects in which the national organisation co-ordinates	2	1
the number of EU FP projects in which national institutions participate		
the number of EU FP projects in which national institutions coordinate		
Number of national R&D projects***	4	2
Of which: the number of projects in collaboration with industry	2	

** the total project budget is above EUR 100 thousand and the national institutions' share is at least EUR 20 thousand

*** projects funded in some proportion (10-100%) by the national agency / ministry

A 9. Source of financing of R&D activities in S&T field of Transport:

	Year 2007 – Share in %:
a) Private companies?	25
b) International sources (such as the EU, UN, OECD, NATO etc.)?	10
c) Not competitive* government financing?	40
d) Competitive* government financing?	25
e) Other sources (foundations, non-profit organisations, etc.)?	

*Projects won after competitive bidding procedures – so that the organisation can actually lose the funding targeted at the end of the procedure – count as source on a competitive basis. If the organisation participates in a money-allocation mechanism so that the money cannot be lost (but e.g. 'only' reduced), it counts as source on a non-competitive basis of research funding even if the procedure itself is called 'competitive bidding'.

Section B: Qualitative assessment of the S&T field

In this section please provide comprehensive description of the following issues:

A Comprehensive description is provided in the National Background Report

B 1. Current situation, priorities and co-operation in S&T field:

B 1.1 Current situation:

- a) What are the main national development policy priorities?
 - (i) Fostering EU integration and regional cooperation, and
 - (ii) Fostering sustainable economic and social development
- b) What are the main R&D priorities?

To improve road traffic safety
To encourage the development of intermodal transport

B 1.2 Future priorities:

- a) Describe how your future R&D priorities are selected and priorities agreed (e.g. foresight)? Are these driven by national policy priorities?
 - ⊕ EPPU, Medium-Term Development Strategy for BiH
 - ⊕ Transport Policy of Bosnia and Herzegovina from 2007 to 2020 (DRAFT)
 - ⊕ SEETO multi annual plan (2009-2013) and
 - ⊕ Protocol on Land Transport (between EU and BiH)
- b) Over the next 10 years, what will be the main R&D policy issues in this S&T field?
 - ⊕ Development of inter-modality and interoperability
 - ⊕ Reducing number of road traffic accidents
 - ⊕ Reducing traffic noise pollution
 - ⊕ Improvement of urban mobility

B 1.3 What national policy and R&D priorities should be the subject for establishment of specific co-operation with other Western Balkan Countries?

- ⊕ Road traffic safety improvement
- ⊕ Intermodal development strategy and plans

B 1.4 It is hoped that this exercise will identify areas for future collaboration and R&D co-operation in this S&T field, probably leading to a possible WBC R&D co-operation proposals under FP7. These projects foresee four levels of co-operation. They range from:

- a) The minimum – exchange of information and results;
- b) Systematic exchange and development of complementary programmes;
- c) Development of common approaches to agreed R&D priorities;
- d) The maximum – full joint approaches, common programmes and pooled funds with open access to researchers from participating countries.

So, with this in mind, what levels of co-operative actions would your country be able to support in the future in this S&T field?

Development of common approaches to agreed R&D priorities

B 1.5 A suggestion is to have a high level meeting once or twice a year; where WBC could decide upon themes on which to co-operate. This may lead to a proposal for a project or other forms of co-operation. Would your country be willing to participate in a high level meeting with other WBC to decide upon these themes?

YES!

Section C: Economic background of the S&T field

FOR MORE INFORMATION ABOUT ECONOMICS, PLEASE SEE NATIONAL BACKGROUND REPORT

C 1. Performance of economy and sector(s) relevant for S&T field:

	2004		2005		2006		2007	
	GDP (000 €)	(Sector GDP/ Total GDP) %	GDP (000 €)	(Sector GDP/ Total GDP) %	GDP (000 €)	(Sector GDP/ Total GDP) %	GDP (000 €)	(Sector GDP/ Total GDP) %
National economy	8.071		8.655		9.776		11.068	
Transport, storage and communications	652	8,08	674	7,77	715	7,31	803	7,26

Source: Agency for statistics of BiH "Thematic Bulletin 10: National Accounts", Sarajevo 2008

C 2. Economic sub-sectors relevant for S&T field:

Sub sector	(sub sector GDP/sector GDP) %	Investment (000 €) ¹³	Number of Personnel ¹⁴	Exports (000 €)	Imports (000 €)	Number of enterprises
n/a	n/a	n/a	n/a	n/a	n/a	n/a

C 3. Main export markets relevant for S&T field:

Market	% share	Main Countries
EU Market	n/a	n/a
Other European Countries	n/a	n/a
International Market (excluding Europe)	n/a	n/a

C 4. Main export products / services relevant for S&T field:

Product / Service	Description
n/a	n/a

Thank you very much for your effort!

¹³ Realised investments are physically realised construction of infrastructure and completed manufacture or purchase of investment goods during a year regardless of payment thereof; Cooperative and mixed ownership included; data relate to modernisation, building onto and extension of facilities

¹⁴ Employed persons in enterprises, institutions and organisations in all ownership sectors