



## COMPETITIVENESS TRANSPORT SYSTEM AS A NECESSARY PRE-CONDITION FOR A SUCCESSFUL EUROPEAN INTEGRATION: MACEDONIAN CASE

Riste Temjanovski, Ph.D. Associated Professor<sup>1</sup>

**Summary:** *In this paper are analyzed transport infrastructural systems in Republic of Macedonia, as one of backbone of economic development and European and regional integration. Infrastructure development in the Republic of Macedonia has achieved significant results in the past period, but the level of progress is still insufficient to fulfill current requirements of the society and economy for transfer of passengers and goods. Construction and completion of transport axes will lead to achieving greater economic results. Well-planned and well-executed transport research will be an essential element in the development of new transport policies and a key support for solutions to both today's and tomorrow's problems.*

*Transport Corridors are expected to be ones of the impulses to generate economic development among countries of Western Balkans, but the transport network conditions in the Western Balkans are a major problem for the region's competitiveness, with bottlenecks in the road network affecting the regional market integration.*

*The priorities for development of the road and railway infrastructure in Republic of Macedonia are the transnational axes: Corridor X, the North-South axis that connects the country with the Republic of Serbia to the North and the Republic of Greece to the South; and Corridor VIII, the East-West axis that connects the country with the Republic of Bulgaria and the Republic of Albania.*

*In order to efficiently catch up with regional corridors and European axes, Macedonian authority engaged in implemented transport program must be more efficiency in realization the strategic priority in domain the transport sector.*

**Keywords:** *transport infrastructure, corridors, transport modes, Euro integration process, planning process*

### 1. INTRODUCTION

Transport infrastructure represents one of the most important human activities worldwide. It is an indispensable component of the economy and plays a major role in

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<sup>1</sup> Associate Professor, Riste Temjanovski, Goce Delcev University, Faculty of Economics, Stip, Republic of Macedonia, riste.temjanovski@ugd.edu.mk

spatial relations between locations. The trade of goods, finance, information and people among the nations can developed only with well-planned transport system. But in recent decades the international flow of trade and finance has grown to unprecedented levels and become essential to the world economy.

Transport infrastructure is understood as being a key to economic growth and quality of life, providing jobs and also the infrastructure upon which most business, trade and investment depends. This also relates to the question of integration, which focuses the role of infrastructure integration approaches and also related to the core-periphery of infrastructure.

Advances in transport technology have extended the range of markets, enabled new methods of production, fostered specialization and strengthened social, political and economic ties between countries and major geographic areas. But there is a permanent contradiction between society, which demands ever more mobility, and public opinion, which is becoming increasingly intolerant of chronic delays and the poor quality of some transport services. Our times are marked by important regional changes-economies and political, that set new specific requirement for the development of the transport systems.

## 2. TRANS-EUROPEAN TRANSPORT NETWORK AND SINGLE MARKET

Transport is one of Europe's strengths. European transport systems compare well in terms of efficiency with other developed regions of the World and they are an essential component of the European economy. The European countries differ both regarding the level of transport development as well as in the priorities of development plans.

The transport services sector in the European Union delivers benefits in its own right: the sector accounts for an estimated 4 % of the Union's gross national product and employs approximately 10 million people employed in the transport equipment industry, and over 6 million in transport related industries. Each day, the transport industries and services of the European Union have to get more than 150 million people to and from work, enable at least 100 million trips made in the course of the work, carry 50 million tons of goods, deal with 15 million courier, express and parcel shipments apart from serving the needs of travel and trade outside the boundaries of the European Union. Apart from the economic importance of the transport sector, the ever-increasing mobility of citizens is today part of everyday life and its significance for every individual should not be underestimated.

*"Nothing symbolizes or serves the integration of Europe better than the physical linking of transport systems and nothing is more important for the development of the applicant countries than the achievement of efficient infrastructures"*<sup>2</sup>. This idea is present in the Treaty of the EU when it mentions the possible EU cooperation with third countries in promoting network infrastructure projects of mutual interest.

The aim of the trans-European transport network is to create Single Market, to improve the efficiency and competitiveness of the European economy as a whole and

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<sup>2</sup> Neil Kinnock (the Commissioner responsible for transport), speaking at a conference in Amsterdam on "Bridging gaps in Financing Infrastructure", 31 March 1998  
<http://europa.eu.int/en/comm/dg07/speech/sp9861.htm>

to improve cohesion between the different parts of the Union by reducing travel time and improving the conditions, particularly with regard to efficiency and safety, in which people and goods can move around Europe. Since its foundation the Single Market has generated significant growth, employment and opportunities for citizens and businesses to move, operate and invest across the EU and thereby played a crucial role in the development and stronger integration of the EU. The European Union's single market is all about bringing down barriers and simplifying existing rules to enable everyone in the EU – individuals, consumers and businesses – to make the most of the opportunities offered to them by having direct access to 27 countries (Croatia will be 28-th in July 2013) and 480 million people.

The cornerstones of the single market are often said to be the 'four freedoms' – the free movement of people, goods, services and capital.

To achieve these aims the Treaty calls for the promotion of:

- Interconnection of national networks;
- Interoperability, in the sense that the networks should be compatible for the different users and equipment is designed to common standards;
- Access to the networks, so that the necessary links are made possible between trans-European, national, regional and even local systems;
- The linking of islands, landlocked and peripheral areas with the more central regions of the Union.

Since its foundation the Single Market has generated significant growth, employment and opportunities for citizens and businesses to move, operate and invest across the EU and thereby played a crucial role in the development and stronger integration of the EU.

The demand for transport of people and goods is rising from day to day, and the consequences are reflected in an overburdening of parts of the transport network and an imbalance in the overall transport infrastructure. In the last few years private passenger road traffic in particular has been growing at the expense of other modes of transport, which shows up in the unfavorable ratio in the choice of transport mode.

As demand for transport keeps increasing, the Community's answer cannot be just to build new infrastructure and open up markets. The transport system needs to be optimized to meet the demands of enlargement and sustainable development. A modern transport system must be sustainable from an economic and social as well as an environmental viewpoint. One of the benefit to establishment the Trans-European transportation networks is possibility to reduce transport, avoid unnecessary trips and generally acknowledge the fact that less, and not more, transport is good for the economy. Furthermore, it is important to recognize that a reduction of transport and traffic is not only beneficial to the economy, but has positive impacts on the quality of life of European citizens, as well as social cohesion within the European Union.

## **2.1. Transport infrastructures – TEN-T**

Trans European networking requires interoperability between nationals and transport modes. This network will cover road, rail, inland waterways, combined transport, port and airport infrastructures and appropriate traffic management and control systems. It should be capable of connection with the networks of third countries in central and Eastern Europe and the Mediterranean.

Transport infrastructure is fundamental for the smooth operation of the internal market, for the mobility of persons and goods and for the economic, social and territorial cohesion of the European Union. The EU 27 comprises 5.000.000 km of paved roads, out of which 65.100 km are motorways, 212.80 km of rail lines, out of which 110.458 km electrified, and 42.709 km of navigable inland waterways. The total investment on transport infrastructure during the period 2000-2006 was € 859 billion. In view of the growth in traffic between Member States, expected to double by 2020, the investment required to complete and modernize a well-performing trans-European network is substantial. The cost of EU infrastructure development to match the demand for transport has been estimated at over € 1.5 trillion for 2010-2030. The completion of the TEN-T network requires about € 550 billion until 2020 out of which some € 215 billion can be referred to the removal of the main bottlenecks. Given the scale of the investment required, it is necessary to strengthen the coordination dimension of network planning and development at European level, in close collaboration with national governments.

The European Union is supporting the TEN-T implementation by several financial instruments – the TEN-T projects, the Cohesion Fund, the European Regional Development Fund and European Investment Bank's loans and credit guarantees. Given the large amount of resources needed for infrastructure development, financial programs - including the role to be assigned to public and private investors, play a key role in infrastructure investment.

The problem of improving infrastructures is currently on the agenda of many EU governments, faced as they are with large fiscal deficits. But main question is finding ways to finance the expensive infrastructure projects? Infrastructures can be funded implying that the public sector provides capital from general funds or taxation and this capital is not expected to be recovered. Infrastructures can also be financed, mostly by private sources, and in this case capital recovery is expected. In this respect, devising new schemes of public-private partnership seems to be an effective way to overcome public balance constraints. Deregulation and privatization were expected to improve managerial efficiency, reduce the financial drain of public enterprises on the public purse, offer a better solution to market failure problems (such as natural monopoly) and introduce competition to sectors that are no longer understood to constitute monopolies.<sup>3</sup>

The use of Public-private partnerships (PPPs) to replace and complement the public provision of infrastructure has become common in recent years in developed countries. Projects that require large upfront investments, such as highways, light rails bridges, seaports and airports, are now often provided via PPPs. A PPP bundles investment and service provision of infrastructure into a single long-term contract. A group of private investors finances and manages the construction of the projects, then maintains and operates the facilities for a long period of usually 20 to 30 years and, at the end of the contract, transfers the assets to the government. During the operation of the project, the private partner receives a stream of payments as compensation. These payments cover both the initial investment – the so-called capital expense (capex) – and operation and maintenance expenses (opex). Depending on the project and type

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<sup>3</sup> Alfen H.W., Buschmeir B.: *Position Paper – Structured Approach for Public Private Partnership Infrastructure Research*. Symposium: Public Private Partnership in Transport: Trends&Theory – Research Roadmap. p.4.

of infrastructure, these revenues are obtained from user fees (as in a toll road), or from payments by the government's procuring authority (as in the case of jails).

### **3. TRANSPORT SYSTEM IN R. MACEDONIA AND TRANS-EUROPEAN TRANSPORT NETWORK**

Republic of Macedonia is a landlocked country in the middle of the southern Balkan Peninsula, and has a favourable geographic position. With a surface area of 25,713 km<sup>2</sup>, the country is one of the smallest in Europe. The country bordering with two EU member states: in the south – Greece and in the east – Bulgaria. The neighbor in the north is Serbia and Kosovo, and Albania in the west. The total length of the border is 849 km, of which the western border is 191 km, the southern, 262 km, the eastern, 165 km and the northern, 231 km in length.

The country's topography is very diverse, and is represented by mountains, valleys, ravines, narrow gorges, saddles and other forms. The average elevation of the mountain massifs is 850 meters above sea level and more than 30 per cent of the land area is above 1000 meters.

Table 1 *Distances from Skopje to major destinations in Balkans countries*

Country	Distance in km
Zagreb (Croatia)	815 km
Sarajevo (Bosnia and Herzegovina)	450 km
Belgrade (Serbia)	420 km
Sofia (Bulgaria)	250 km
Tirana (Albania)	230 km
Prishtina (Kosovo)	90 km
Thessalonica (Greece)	230 km
Athens (Greece)	700 km

#### *Border crossings*

The border cross issue is depending mainly on the successful implementation of the modernization of customs regulations, improvement and operability of the cross border buildings, enhancement of the battle against smuggling, corruption and illegal human trade. The other issues are mostly related with the interaction between the public and private sector and strengthening of the regional cooperation.

The number of official border crossings in the Republic of Macedonia towards the neighboring countries is:

a) *15 road border crossings:*

3 with Bulgaria (Deve Bair near Kriva Palanka, Novo Selo near Strumica, and Delcevo);

3 with Serbia (Tabanovce, Sopot and Pelince near Kumanovo);

2 with Kosovo (Jazince near Tetovo; and Blace near Skopje);  
 3 with Greece (Bogorodica near Gevgelija, Medzitlija near Bitola, and Star Dojran near Dojran); and  
 4 with Albania (Stenje near Resen, Sveti Naum near Ohrid, Kafasan near Struga, and Blato near Debar).

b) 3 railway border crossings:

2 with Serbia (Tabanovce near Kumanovo, and Volkovo near Skopje);  
 1 with Greece (Bogorodica near Gevgelija).

c) 2 airport border crossings in Skopje (Alexander the Great Airport) and Ohrid (St. Paul the Apostle Airport).

According to the National Strategy for Integrated Border Management, categorization is carried out at border crossings in regards to their operational capacity (current and prospective). Improving the throughput of the crossings, with full respect to the previously mentioned concept of "accessible but secure borders and "Schengen best practice" in this country are implementing the concept of "Single Window" and "One-Stop-Shop". By applying these concepts, will greatly reduce the waiting time at the crossings as well as their transfer, which will produce major positive economic effects. Some of the issues in the near future will be placed among others:

- The harmonization of customs procedures with neighboring countries
- The harmonization of categorization of the borders with neighbors.

The development of border crossings depends largely on successful implementation and modernization of customs legislation, improving the operation of border crossings and intensifying the fight against smuggling, corruption and trafficking of human beings, respecting the basic principles of "accessible but secure borders". Other issues in greater extent are related to the interaction between public and private sector and strengthening of regional cooperation.

Table 2 Road Network of the Republic of Macedonia

Type of Road	km
International E roads	553
National roads	911
Regional roads	3.772
Local Roads	9.300
<b>Total</b>	<b>13.983</b>

Source: State Statistical Office of the Republic of Macedonia: Transport and others services 2011. Skopje, 2012.Nr. 8.4.12.03.p.49.

Road transportation infrastructure of the Republic of Macedonia is characterized by relatively high density, exceptions being the highways. At the moment, Macedonia's road network totals about 13.983 km, out of which 911 km are national roads, 3.772 km are regional and 9.300 km are local roads.

Major part of national roads or 553 km are included in the European roads "E" system, while only 251 km of motorways may be included in the TEM TEM (Trans-

Europe Motorway) system of roads, these being: Border R.Serbia - Kumanovo - Petrovec - Veles - Gradsko -Negotino - (to Demir Kapija); Skopje - Petrovec; Hipodrom-Miladinovci; Skopje (Saraj) - Tetovo; Tetovo - Gostivar. Out of the total length of categorized national and regional road network, 251 km (4.7%) are at motorway level, 341 km (7.9%) are with tracks width of 7 meters or more, 297 km (6.9%) are of tracks width of 7 meters and less, 1523 km (35.3%) have width bigger than 5.5 meters, 306 km (7.0%) are of width ranging from 4.5 and 5.5 meters, 872 km (20.2%) with width less than 4.5 meters and 774 km (17.9%) are with earth tracks.

Table 3 *Condition of the roads*

	km	Good	Medium	Poor
Motorway (M 2x2)	259	60%	30%	10%
Magistral (M 1x2)	911	60%	30%	10%
Regional 1 (R1)	3772	45%	27%	28%
Regional 2 (R2)		20%	30%	50%
Gravel (R2)	9300	-	50%	50%

Considering the small size of the country and its population, the road network size is mostly adequate, with little or no need for expansion. The network is not in good condition; about 50% of national roads are poor.

Rather poor level of the road infrastructure quality contrasts sharply with the high relative importance of this mode of transportation in the Republic of Macedonia. Road transportation namely accounts for by far the largest share of total transportation of goods and passengers in the country. Within the structure of all goods transported on the roads, internal transport participates with a dominant share while the rest is being distributed between international transport and transit. As far as passenger transportation is concerned, road transportation is even more dominant, as only a negligible per cent of all passenger travels in the country is done by railways.

The national road network consists of six (6) roads (M-1 to M-6). Most national roads consist of two traffic lane carriageways. Two of the national roads are in concordance with the Pan- European Corridors as well as European road network M-1 (E-75) and M-2 (E-872) are in concordance with Corridors X and VIII respectively. Other national roads form part of important international links, for example, M-3 (E-65), M-4 (E-65), M-5 and M-6. The two Trans National Axes (Corridors VIII and X) that cross the country are important because they support the easy movement of people and goods within the country and also provide connections to regional neighbors and further to all other European Countries

Further development of the transport sector will contribute towards competitiveness of the national economy and balanced regional development. The relatively poor quality of the road network contrasts sharply with the high relative importance of the road transport in Macedonia. This is because road transport accounts for by far the largest share of total carriage of goods and passengers in the country.

According to the Road Investment Plan Study, it is expected for the traffic to grow at an average rate from 18% to 30% on the national road network, and up from 18% to 40% on the regional road network. The assessment of the general conditions of the roads is estimated as follows in Table 3.

#### **4. R. MACEDONIA AND TRANS-EUROPEAN TRANSPORT NETWORK**

The economy in Republic of Macedonia is ranging on the list of non-so-successful economies in transition. As a new independent state, it has strived very hard to survive and to maintain macroeconomic stability, while at the same time implementing all the necessary reforms that were requested by international organizations. During the last two decades, Macedonia has been progressively opening its market and has made progress in liberalizing its economy. The transport sector has an important role in the national economy. In addition, the Republic of Macedonia should take advantage of its position, because such as South-East European country, it is at intersection of routes to Balkans, Mediterranean and Caspian Region and Asia. Republic of Macedonia is promoting the concept of EU Neighborhood Policy into the transport field for better connection the EU with the neighboring countries and regions. External links include all direct links of the Country with neighbouring countries, as they manifest the most direct relations as parts of the obligations to develop good neighbourly relations and intensive exchange and cooperation with the surrounding. The major transnational axes are those which contribute most to promote the international exchanges and traffic as well as to enable regional cooperation and integration.

The High Level Group document has determined the EU member states Major Trans - National axes, where the South Eastern axis links the EU through the Balkans and Turkey to the Caucasus and the Caspian Sea as well as to Egypt and the Red Sea. Access links to the Balkan countries as well connections towards Russia, Iran and Iraq and the Persian Gulf are also foreseen as well as a connection from Egypt to the South towards other African countries.

The backbone of the country's road network are the two pan European corridors. Of the 172 km long pan-European corridor X passing the country in the North – South direction 70.1 per cent has been already constructed at modern highway standards with the remaining sections accounting 29.1 per cent of the total being ready for construction. Construction of the pan-European corridor VIII, with the total length of 304 km and passing the country from East to West, is less advanced. Only 27.6 per cent of the total is already built at modern highway standards with another 8.7 per cent being currently under construction

Corridors VIII and X are expected to be ones of the impulses to generate economic development among countries of Western Balkans. In other hand they also play a main role in domain the Economic and Environmental Programs in this regional policy. These corridors would be assisted by the establishment of set of multilateral principles and encourage the transfer of passenger and goods.

The European Community is supporting the implementation of these projects to attain greater, efficient transport system which reduce regional disparities and effective better balance between European countries.



There is strong political commitment to the development of the regional transport networks is confirmed with the signing of the Memorandum for understanding of the development of the South East Europe Core Regional Transport Network in June 2004. More recent efforts for defining the Core Regional Transport Network are made with in the future Treaty for Establishing a Transport Community between the EU and South East Europe Partners which should be in force by 2011.

In addition, the Republic of Macedonia should take advantage of its position, because such as South-East European country, it is at intersection of routes to Balkans, Mediterranean and Caspian Region and Asia. Corridors VIII and X are expected to be ones of the impulses to generate economic development among countries of Western Balkans. In other hand they also play a main role in domain the Economic and Environmental Programs in this regional policy. These corridors would be assisted by the establishment of set of multilateral principles and encourage the transfer of passenger and goods.

## **5. FUTURE TRANSPORT POLICY AND ACTION**

The development of the Corridors should be including maintenance, reconstruction, rehabilitation, upgrading and new construction of main and ancillary infrastructures as well as its operation and use with a view to fostering the most efficient and environmentally friendly transport modes.

The European Community is supporting the implementation of these projects to attain greater, efficient transport system which reduce regional disparities and effective better balance between European countries.

In the coming period, transport policy in Republic of Macedonia, will be aimed to realize the next transport projects:<sup>4</sup>

1. Construction the highway Demir Kapija – Smokvica in the country's southeast.

It will also finance construction and modernization of toll stations as well as installation of equipment for electronic toll collections. Besides constructing the highway strip, the Corridor X project in Macedonia includes building two tunnels, 1,250 and 1,300 meters in length, respectively, six bridges, five overpasses, seven underpasses, and two highway crossings. The price of construction of this projects amount a total of 854 mil. euro. This project envisages construction of the missing section with a length of 28.2 km, which is not on the level of motorway on Corridor X in the Republic of Macedonia. With construction of this section, a modern highway constructed in accordance with the European standards will stretch along Corridor X on the territory of the Republic Macedonia and will connect the country with the neighboring countries and the wider region.

2. Railway line East – West (Corridor VIII)

Nowadays there is no railway connection with Bulgaria and Albania. The railway line passing through Macedonia with 339 km long, of which 152 km have been constructed so far.

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<sup>4</sup> Ministry of transport and communication: *Program of activity and project envisaged in the coming period*; Government of the Republic of Macedonia: *Public investment programme of the Republic of Macedonia 2011-2013*. Skopje, 2011. p 15-25

As part of Corridor VIII the railway line through territory of the Republic of Macedonia is divided into three sections:

- Western section Kichevo – border with the Republic of Albania line that is subject of the very project. The aim of this project is preparation and completion of the necessary project and tender documentation for future construction of the new railway section with a length of about 62.6 km from Kicevo to the border with Republic of Albania as part of Corridor VIII. The construction of the western part the railway Corridor 8 on the territory of the Republic of Macedonia, will provide rail access to the ports of Durres and Vlora.
- Central section Kumanovo – Kichevo railway line that is built and in operation and
- Eastern section Kumanovo – border with the Republic of Bulgaria railway line that is under construction

Further dynamics of completion of the railway line from Kumanovo to the border with Bulgaria, as well as the construction of the railway line Kicevo – Struga – border with Albania, will depend on the availability of favorable foreign financial support.

## **6. SUMMARY**

Planning and policy development outside the transport sector must take transport generation into account and provide the information necessary to find an optimal solution. Planners and policymakers must essentially decide how they want cities to look and how they want people and goods to be transported in the future. Strategy for competitive and sustainable development of the Republic of Macedonia for the next period must take into account into:

- Establishment and development of infrastructure for access to the network, making it possible communication of peripheral regions with the central regions;
- Interconnection of the Republic of Macedonia and neighbouring countries, for the purpose of establishing links between transport corridors and other points.
- The optimum combination and integration of the various modes of transport;
- Optimization of the capacity and efficiency of existing infrastructure;
- Establishment and improvement in interconnection points and intermodal platforms;
- Improved safety and network reliability;
- The new railway line will lead to a reduction of negative externalities in result of the modal shift of passenger and freight traffic from road to rail
- Space protection and reservation for future strategic transport corridors, for which there are no transportation and economic arguments at present;
- Undertaking measures that improve the economic and ecological sustainability of transport;

Transport policy is not some miraculous tool with which to solve a society's development problems. It must work in unison with national development programmes, physical planning, investment, economic and monetary policy, legal regulations and

other areas. It must move in step with the implementation of these programmes and respond with vitality and responsibility to the changes taking place in society. We must all acknowledge that, in many respects, our quality of life depends on the success of our transport policy.

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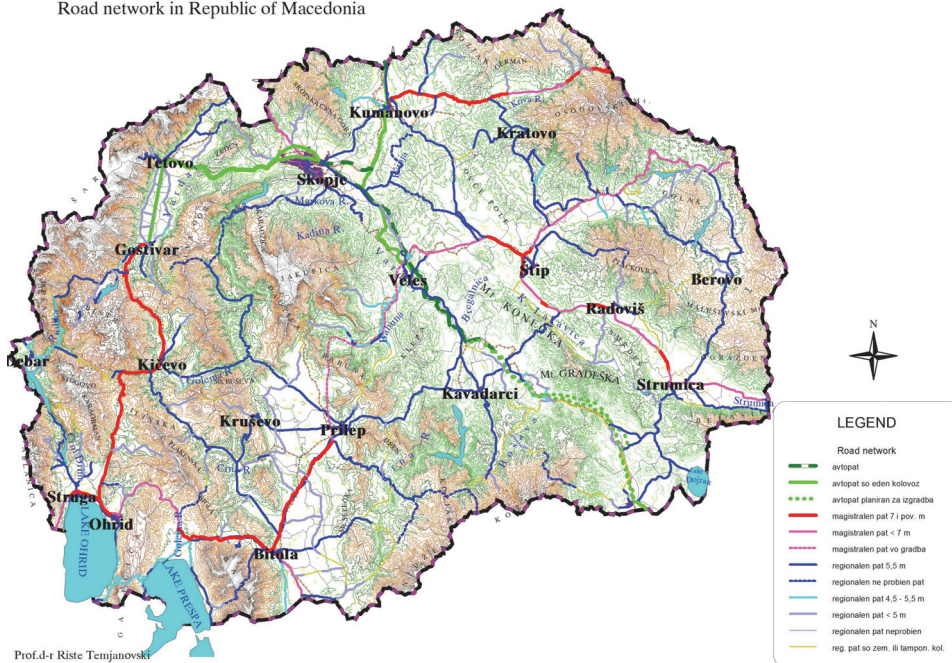
Appendix:

PAN-EUROPEAN CORRIDORS



Fig. 1 Pan-European corridors

Road network in Republic of Macedonia



Prof.dr Riste Temjanovski

Fig. 2 Road network in R. Macedonia