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# Development Impact of Transport in South Eastern Europe

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***Abstract:*** This displays arguments that would speak in favor of establishing South Eastern Europe Transport Grid, as a flywheel of not only cross border cooperation and the stabilization of the region but as an economically sound business project.

***JEL Classification:*** L910

***Keywords:*** transport, South East Europe, infrastructure

## Introduction

The development of transport networks in the South Eastern Europe region, connected and compatible with the European networks and those of the neighboring countries, is an important means of improving links within the region and integrating countries of this area into the Europe. European Union has gone through extensive planning exercises resulting in transeuropean networks, and it is evident that any development of a regional nature has to take a full account of links with neighboring countries. (EC: 2001., p 3)

There is no doubt that fast development of the market economy hinges on physical (roads, railways, energy, etc.) and intellectual (education, medical care) infrastructures. Furthermore, due to market disequilibrium between demand and supply, infrastructure usually appears as a consequence and not a prerequisite of trade. Hence, the national governments should coordinate their efforts to create additional demand for infrastructure. Hence, the idea of SEE Transport Grid is one of the important conditions for a faster economic growth.

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## Trafic Density and Infrastructure

### *Transport Role Constraints*

When transport is concerned, South Eastern European economies are in general burdened with a historical legacy, manifested in utilities, especially in transport. Due to its historical underdevelopment, caused by the negligence of planning mechanisms, transport and communications in general have become significant constraints to the economic development. Such conditions have put serious constraints on the role of the traffic and transport infrastructure for the future economic development of the SEE region. The scarcity of resources requires a gradual approach to the phases of construction of a transport infrastructure, and for the most part it suggests that necessary choices have to be made.

The overall stability in the region is linked to the existence of an economic equilibrium and a balanced growth. In addition to national, religious, cultural and civilization diversities and adversities, the prospect of SEE countries co-operation is burdened with a severe development gap between these economies, and the development gap between these countries and the rest of Europe.

Well-developed and efficient transport infrastructure would have multiple economic effects in opening and connecting the countries in the region. The project's magnitude would probably have a positive impact on the economic growth, employment, tourism and urbanization of the whole region and each individual country.

### Macroeconomic Indicators of Development of SEE Countries

In this section same basic facts about the countries of the region and the state of traffic infrastructure will be analyzed in comparison with the data on some EU countries (see table 1).

The comparison given in the table above shows the countries of the region are below an economic level comparable to EU standards. Besides, the differences in the level of development between the countries of the region also exist. Per Capita GNI is ranging from 4.710 US$ in Albania to 10.610 US$ in Croatia, and almost 20.000 US$ in Slovenia. Other indicators clearly show the lower level of development of the countries in SEE region. Average urban population share and the population density (with the exception of Albania) are also lower than in the most of EU countries. Economic strength of SEE countries is very well illustrated if we compare the sum of GNI of all countries in the region (including Hungary, Slovenia and Turkey) with the GNI of Germany only. If calculated by using current prices, the combined GNI of

SEE countries equals 407.185 mil US$. This compared to Germany's 2.085.464 mil US$ amounts merely a 20% percent. One can get the more realistic picture by using PPP adjusted data, which brings us to 969.038 mil US$ of SEE countries compared to 2.279.117 mil. US$ of Germany, which is still below 50%. At the same time, population of these countries is 62% larger than population of Germany (134 million in SEE countries, although more than half of that number accounts to Turkey, compared to 82 million in Germany)

Table 1: Macroeconomics Indicators for the SEE Countries and selected EU Countries

| Country | Population total, 2003 | Surface area (square km) | Urban population as % of total population, 1995 | Population density (people per sq km), 2003 | GNI PPP (current int US$, mil), 2003 | GNI, Atlas method (current US$, mil), 2003 | GNI per capita, PPP (current int US$), 2003 |
|---|---|---|---|---|---|---|---|
| Croatia | 4.444.653 | 56.540 | 59 | 79 | 47.174 | 23.875 | 10.610 |
| Bosnia and Herzegovina | 4.139.835 | 51.210 | 44 | 81 | 25.874 | 6.352 | 6.250 |
| Serbia and Montenegro | 8.104.000 | 102.170 | 52 | 79 | .. | 15.848 | .. |
| Macedonia, FYR | 2.049.000 | 25.710 | 60 | 80 | 13.825 | 4.052 | 6.750 |
| Albania | 3.169.064 | 28.750 | 44 | 110 | 14.923 | 5.509 | 4.710 |
| Romania | 21.744.000 | 238.390 | 56 | 91 | 155.220 | 49.045 | 7.140 |
| Bulgaria | 7.823.000 | 110.990 | 68 | 70 | 58.966 | 16.637 | 7.540 |
| Turkey | 70.712.000 | 774.820 | 67 | 91 | 474.788 | 197.788 | 6.710 |
| Slovenia | 1.995.000 | 20.250 | 49 | 99 | 38.098 | 23.777 | 19.100 |
| Hungary | 10.128.000 | 93.030 | 65 | 109 | 140.170 | 64.302 | 13.840 |
| Greece | 11.033.000 | 131.960 | 61 | 84 | 219.523 | 145.970 | 19.900 |
| Portugal | 10.444.000 | 91.980 | 68 | 114 | 184.972 | 123.288 | 17.710 |
| Germany | 82.541.000 | 357.030 | 88 | 231 | 2.279.117 | 2.085.464 | 27.610 |
| France | 59.762.000 | 551.500 | 76 | 108 | 1.651.576 | 1.521.613 | 27.640 |
| Italy | 57.646.267 | 301.340 | 67 | 191 | 1.546.471 | 1.243.168 | 26.830 |

Source: WDI, 2005

This is another indicator that shows that we are dealing with a large market whose level of development is far below that of the large integrations. This underlines the need for closer cooperation among SEE countries and the creation of conditions leading to a closer economic integration with the EU and the strengthening of mutual ties.

## The Relative Development of Traffic Infrastructure

Even more significant differences between SEE countries and EU countries exist when some basic facts about the state and the level of the traffic infrastructure in SEE countries are compared against selected EU countries (see table 2).

Table 2: Road traffic indicators for the SEE Countries and selected EU Countries

| Country | Surface area (square km) | Roads, total network (kms), 2002 | Roads, paved (% of total roads), 2002 | Vehicles (per 1.000 people), 2002 | Vehicles (per km of road), 2002 |
|---|---|---|---|---|---|
| Croatia | 56.540 | 28.344 | 85 ** | 311 | 49 |
| Bosnia and Herzegovina | 51.210 | 21.846 ** | 52 ** | .. | .. |
| Serbia and Montenegro | 102.170 | 50.414 *** | 59 *** | 154 *** | 33 *** |
| Macedonia, FYR | 25.710 | 8.684 ** | 64 ** | 153 **** | 35 **** |
| Albania | 28.750 | 18.000 | 39 | 66 * | 11 * |
| Romania | 238.390 | 198.755 | 50 | 168 * | 19 * |
| Bulgaria | 110.990 | 37.077 | 92 | 326 | 69 |
| Turkey | 774.820 | 354.421 | 42 | 90 | 18 |
| Slovenia | 20.250 | 20.250 | 100 | 481 | 47 |
| Hungary | 93.030 | 159.568 | 44 | 302 | 19 |
| Greece | 131.960 | 117.000 ** | 92 ** | 328 *** | 28 **** |
| Portugal | 91.980 | 68.732 ** | 86 ** | 459 * | 50 **** |
| Germany | 357.030 | 230.735 ** | 99 *** | 529 **** | 66 **** |
| France | 551.500 | 893.100 | 100 | 592 | 39 |
| Italy | 301.340 | 479.688 ** | 100 ** | 606 ** | 74 ** |

*2001, **1999, ***1997, ****1996

Source: WDI, 2005

Considering the number of vehicles per 1.000 persons, we can see that with the exception of Greece and Hungary, this number is considerably higher in EU countries (between 400 and 600 hundred vehicles per 1.000 persons). Greece and Hungary have somewhat more than 300 vehicles per 1.000, which places them near the Croatia and Bulgaria. But the differences between SEE countries are even more pronounced. Croatia and Bulgaria are of course the leaders of this group with roughly 300 vehicles per 1.000 persons, but at the end of the line there is Turkey with 90 vehicles, followed by Albania with only 60 vehicles per 1.000 persons. Of course, these indicators (and many other that will be presented in this paper) can be seen as an obstacle, but they are also witnessing a great potential this market has. Situation with the number of vehicles per km of road is somewhat better for SEE, but this could also mean that variable component of the traffic infrastructure (which includes the vehicles) is going ahead of the fixed component of the traffic infrastructure, situation that cannot be qualified as completely positive.

Equally vivid discrepancies could be observed in the state of rail infrastructure and the rail transport (see table 3).

Again, the broad region (including Turkey, Slovenia and Hungary) is going to be compared with the Germany, as a single, but probably the strongest EU economy. The length of the railway tracks in the region equals roughly 42.000 km, which is 17 percent higher than the total length of the railway tracks in Germany (close to 36.000 km). Total amount of the goods hauled in the SEE region equals 42.920 million of tone-kilometers, compared to 73.971 in Germany, which means that the result is more than 40 percent lower in the SEE region. Total number of the passengers carried in the SEE countries is 27 million of passenger-kilometers, which makes only 40

percent of the same indicator for Germany, so the situation with the passenger traffic is even less favorable for the SEE countries. It should be stressed that the economic efficiency of the SEE region railway transport is significantly lower. Namely, 17 percent longer railway network in SEE region holds 40 percent less goods than in Germany.

Table 3: Railway traffic indicators for the SEE Countries and selected EU Countries

| Country | Surface area (square km) | Roads, total network (kms), 2002 | Roads, paved (% of total roads), 2002 | Vehicles (per 1.000 people), 2002 | Vehicles (per km of road), 2002 |
|---|---|---|---|---|---|
| Croatia | 56.540 | 28.344 | 85 ** | 311 | 49 |
| Bosnia and Herzegovina | 51.210 | 21.846 ** | 52 ** | .. | .. |
| Serbia and Montenegro | 102.170 | 50.414 *** | 59 *** | 154 *** | 33 *** |
| Macedonia, FYR | 25.710 | 8.684 ** | 64 ** | 153 **** | 35 **** |
| Albania | 28.750 | 18.000 | 39 | 66 * | 11 * |
| Romania | 238.390 | 198.755 | 50 | 168 * | 19 * |
| Bulgaria | 110.990 | 37.077 | 92 | 326 | 69 |
| Turkey | 774.820 | 354.421 | 42 | 90 | 18 |
| Slovenia | 20.250 | 20.250 | 100 | 481 | 47 |
| Hungary | 93.030 | 159.568 | 44 | 302 | 19 |
| Greece | 131.960 | 117.000 ** | 92 ** | 328 *** | 28 **** |
| Portugal | 91.980 | 68.732 ** | 86 ** | 459 * | 50 **** |
| Germany | 357.030 | 230.735 ** | 99 *** | 529 **** | 66 **** |
| France | 551.500 | 893.100 | 100 | 592 | 39 |
| Italy | 301.340 | 479.688 ** | 100 ** | 606 ** | 74 ** |

*2001, **1999, ***1997, ****1996

Source: WDI, 2005

Especially interesting are air traffic basic indicators. The situation here is even more adverse for the SEE countries (see table 4).

With exception of Turkey, it can be stated that the air transport in the region is in the earliest stage of development. Although the numbers speak for themselves, we will compare the number of the air passengers in the region with the number of passengers in Germany. In the 2003 total number of the passengers in the region was slightly more than 18 million, while at the same time in Germany there were more than 72 million of passengers in air traffic. The number is even less encouraging if we bear in the mind the fact that Turkey alone makes the 10 million of passengers in the region. If the number of air transport passengers is compared to the population of the countries, there is an evident disproportion. While in every old EU member the number of the air passengers exceeds 50 percent of the population, such situation is not present in any of the SEE countries. The leader is Slovenia where this number is highest in the SEE region (slightly below 40 percent) and lowest in Bulgaria (below 1 percent).

Table 4: Air traffic indicators for the SEE Countries and selected EU Countries

| Country | Population, total, 2003 | Surface area (square km) | Air transport, freight (million tons-km), 2003 | Air transport, passengers carried, 2003 | Aircraft departures, 2003 |
|---|---|---|---|---|---|
| Croatia | 4.444.653 | 56.540 | 3 | 1.266.600 | 19.800 |
| Bosnia and Herzegovina | 4.139.835 | 51.210 | 1 | 72.900 | 4.600 |
| Serbia and Montenegro | 8.104.000 | 102.170 | 47 | 1.298.300 | 22.200 |
| Macedonia, FYR | 2.049.000 | 25.710 | 0 | 201.000 | 2.300 |
| Albania | 3.169.064 | 28.750 | 0 | 158.900 | 3.800 |
| Romania | 21.744.000 | 238.390 | 7 | 1.250.800 | 26.600 |
| Bulgaria | 7.823.000 | 110.990 | 0 | 75.400 | 1.400 |
| Turkey | 70.712.000 | 774.820 | 379 | 10.701.000 | 103.600 |
| Slovenia | 1.995.000 | 20.250 | 4 | 758.400 | 16.400 |
| Hungary | 10.128.000 | 93.030 | 28 | 2.369.100 | 34.600 |
| Greece | 11.033.000 | 131.960 | 63 | 7.518.900 | 114.100 |
| Portugal | 10.444.000 | 91.980 | 206 | 7.590.300 | 117.400 |
| Germany | 82.541.000 | 357.030 | 7.298 | 72.693.100 | 844.800 |
| France | 59.762.000 | 551.500 | 5.067 | 47.258.800 | 695.900 |
| Italy | 57.646.267 | 301.340 | 1.359 | 34.953.200 | 327.900 |

Source: WDI, 2005

Synthetic overview of basic indicators of the relative development of the traffic infrastructure and transport dynamics gives really appropriate insight into the scope and range of the transport problems the SEE region is facing (see table 5).

Table 5: Synthetic indicators for the SEE Countries and selected EU Countries

| Country | Population, total, 2003 | Surface area (square km) | Air transport, freight (million tons-km), 2003 | Air transport, passengers carried, 2003 | Aircraft departures, 2003 |
|---|---|---|---|---|---|
| Croatia | 4.444.653 | 56.540 | 3 | 1.266.600 | 19.800 |
| Bosnia and Herzegovina | 4.139.835 | 51.210 | 1 | 72.900 | 4.600 |
| Serbia and Montenegro | 8.104.000 | 102.170 | 47 | 1.298.300 | 22.200 |
| Macedonia, FYR | 2.049.000 | 25.710 | 0 | 201.000 | 2.300 |
| Albania | 3.169.064 | 28.750 | 0 | 158.900 | 3.800 |
| Romania | 21.744.000 | 238.390 | 7 | 1.250.800 | 26.600 |
| Bulgaria | 7.823.000 | 110.990 | 0 | 75.400 | 1.400 |
| Turkey | 70.712.000 | 774.820 | 379 | 10.701.000 | 103.600 |
| Slovenia | 1.995.000 | 20.250 | 4 | 758.400 | 16.400 |
| Hungary | 10.128.000 | 93.030 | 28 | 2.369.100 | 34.600 |
| Greece | 11.033.000 | 131.960 | 63 | 7.518.900 | 114.100 |
| Portugal | 10.444.000 | 91.980 | 206 | 7.590.300 | 117.400 |
| Germany | 82.541.000 | 357.030 | 7.298 | 72.693.100 | 844.800 |
| France | 59.762.000 | 551.500 | 5.067 | 47.258.800 | 695.900 |
| Italy | 57.646.267 | 301.340 | 1.359 | 34.953.200 | 327.900 |

Source: WDI, 2005

It is possible to say that the traffic infrastructure in the region is underdeveloped, and that the further investments are needed, in order to reach the level of development

in EU. Although synthetic indicators sometimes present slightly distorted picture (Hungary has the highest length of roads per square kilometer of surface, but one must bear in mind that only 44% percent of the roads in Hungary are paved, see table 2.), it is rather obvious that the traffic infrastructure in the region must be improved.

## White Spot Policy

*Connecting the New Member States to the Trans-European Network*

Every attempt to analyze EU transport policy is a highly demanding task. Not only that the potential researcher has to confront a vast number of different strategies, documents, papers, memos etc, but there is also the dynamic element of the story. The EU, its social and economic structure, together with its surroundings is constantly changing and evolving. In such highly turbulent environment, there is a need for mutual cooperation and coordination of transport (and all other) policies.

Transport is crucial for economic competitiveness and commercial, economic and cultural exchanges, and the common transport policy is one of the cornerstones of the building of Europe (White paper, European transport policy for 2010, EC, 2001, p 2.). It is also stated that the Europe must bring about a real change in the common transport policy, and that the new objectives are needed. They include restoring of the balance between the different modes of transport, further development of intermodality, combating congestion, improving safety and the quality of the transport of the services. However, the aforementioned facts are only the first steps, and part of the answer. With the enlargement of Europe transport policy and trans-European network need to be extended across the continent, and Europe must rethink its international role if it is to succeed in developing efficient transport system.

The first challenge is connecting the new member states to the trans-European network. This is, as we have already mentioned, a precondition for their economic development. The experience of Spain, Greece and Portugal in this context is very instructive. Enlargement is expected to trigger significant expansion in exchange of goods (and people) between the countries of the Union. The lack of efficient transport infrastructure could be a serious drawback in the process of successful adjustment to new circumstances and the integration into the internal market.

For historical reasons the links between EU and Eastern Europe are poorly developed. Previous efforts in overcoming such situation have resulted in the identification of several corridors, as agreed by the Pan-European conferences in Prague in 1991, Crete in 1994 and in Helsinki in 1997.

The launch of a global assessment of the candidate countries' transport infrastructure needs followed. This is so called TINA report, published in October 1999. From this report it has emerged that the public budget resources fall short of the EUR 91 billion needed to build the priority transport infrastructure in the central and Eastern Europe by 2015. This amounts for 1,5 percent of their GDP during same period. It is considered essential for private funding to be mobilized, and besides, countries will have to tap non-traditional resources, such as funds derived from fuel taxes. It is easy to see that the certain priorities must be selected. Priorities include the elimination of bottlenecks at the frontiers and connection of the traffic infrastructure to the current trans-European transport network (TEN-T). As a result, TEN-T priority axes and projects list was extended

It is evident that there is a part of the SEE region that is (intentionally or not) omitted from this revision of the TEN-T priority axes and networks. This is a western part of the region, or the countries sometimes referred to as Western Balkans. This situation is even more evident if this extended list is compared to the older 'transport corridors'.

The trans-European transport network (TEN-T) has a crucial role in securing the free movement of goods in the European Union. It carries about half of all freight and passengers. The EU decision on the guidelines for the TEN-T define the Union's priorities by attaching the network 'label' to certain routes, so channeling EU financial support to projects with greater Community added value. The network serves as a reference framework for other Community legislation and promotes the economic, social and territorial cohesion of the Union. Some major projects are included in a list of priority projects. They only represent a part of the numerous projects of the TEN-T, however their selection from a wide-range of projects gives them a high profile making it possible to concentrate, attract and co-ordinate financial resources. (European Commission, Directorate-General for Energy and Transport, The trans-European transport network, 21 June 2005, p. 1).

### *Core Transport Network for the SEE Region*

It was recognized that there is a need for further planning in South East Europe. Bulgaria and Romania, as candidates for EU membership, were included in the planning process that EU conducted in the 1990s in order to define the trans-European transport network for the member states and accession countries. Still, there were five countries of the Western Balkan region that should not be forgotten or left aside.

Some work in establishing the main transport networks has already been done, through the Pan-European Transport Corridors, as mentioned before. The

Pan-European corridors in the region form the backbone of the intra-regional network. The corridors have been generally accepted in all the countries. There is general awareness of the corridors and their significance, and the corridors have been particularly guiding in relation to transport investment by the EU and the EIB.

Besides these Pan-European corridors, since they are only the backbone, there is the need for a more fine-meshed regional network in the Balkans. Therefore, the European Commission issued the report called 'Transport and Energy Infrastructure in South East Europe'. This report defined the strategic transport networks in the region on which investment projects for interurban transport should mainly concentrate. The networks cover the main road and rail routes, inland waterways and river ports, seaports, airports and terminals. The strategic networks were presented at a conference in Tirana in May 2001 in which the members of the Stability Pact, the beneficiary and surrounding countries, the IFI's and other donors participated. The networks were endorsed at a conference in Bucharest in October 2001. (EC, REBIS, 2003, p 21)

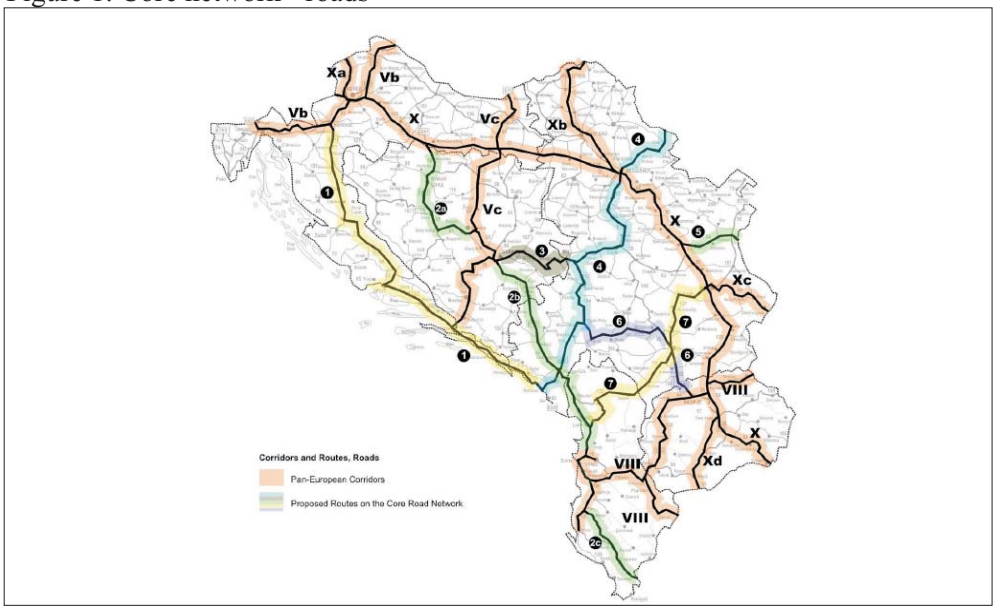
In 2002 the EU Commission launched the Regional Balkans Infrastructure Study, - REBIS project. The project focused on assisting countries of the region to develop coherent strategies for transport infrastructure development and, in particular, on the development of infrastructure which interlinks the countries of the region, or which links the region with the rest of Europe.

As a result of the efforts of the countries of the region and the international community to develop a strategy for regional transport in South East Europe, the Memorandum of Understanding (MoU) on the Development of the South East Europe Core Regional Transport Network on June 11, 2004 by Albania, Bosnia and Herzegovina, Croatia, FRY Macedonia, Serbia and Montenegro (including Kosovo), and the European Commission was signed. The MoU assumes reciprocal consultations on transport policy, and opens the door to implementing a major infrastructure program.

Under the REBIS project, the strategic transport networks defined in the 'Transport and Energy Infrastructure in South East Europe' have been reviewed and discussed with the National authorities in the countries and analyzed in the light of the most recent political developments in the region. Taking the EU strategic networks as a basis, a 'Core Network' for the region was then proposed. This Core Network includes the Pan-European corridors in the region. In addition, it interconnects the 5 capitals of the region and the cities of Banja Luka, Podgorica and Pristina. It also links these cities to the capitals of the neighboring countries and connects to the strategic ports at the Adriatic Sea. It is slightly denser than the corresponding TINA network which was developed for countries of Central and Eastern Europe which reflects the fact that the countries of the region are smaller and thus the capitals to connect are closer to each other. (EC, REBIS, 2003, p 22)

The 'Core Network' includes 4300 km of railways across the five SEE countries, 6000 km of roads, major ports and airports, and, the inland waterways (see figure 1 and figure 2). The total cost of developing the 'Core Network' has been estimated at over 16 billion, and 17 priority projects have been identified.

Figure 1: Core network - roads

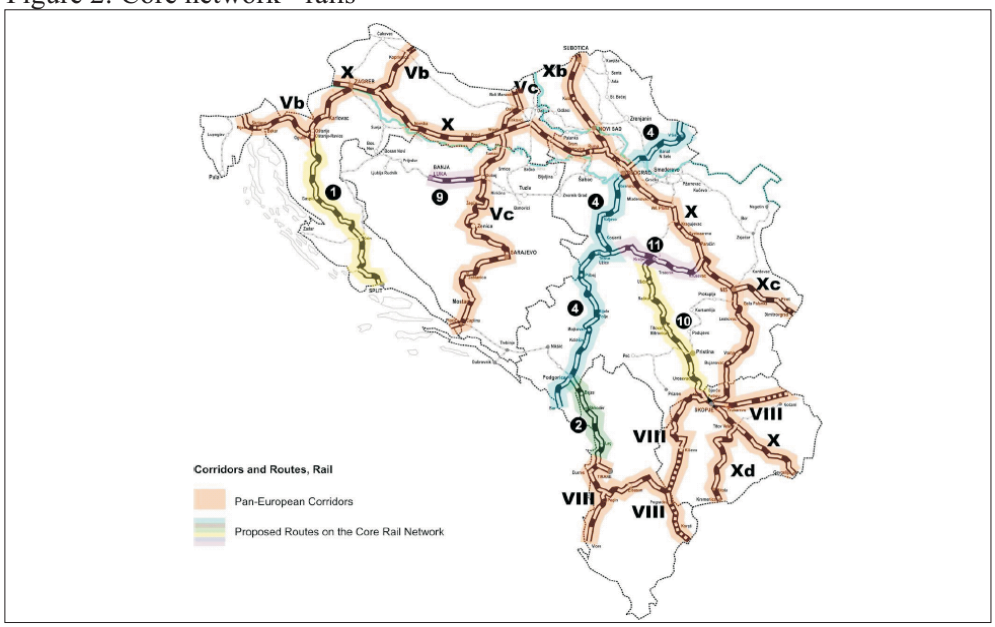



Source: REBIS – Transport, EC 2003

The 'Core Network' also includes the River Danube - Pan-European Corridor VII. This river already plays an important interregional role, and it is expected to gain further importance in the future. Initiatives have recently been taken to re-open the Sava river for commercial navigation. As a first stage, it is envisaged to restore the river to the navigability of before 1990. Although this initiative seems important and fully justified, it is not expected that the Sava river in the short term will gain such regional importance - from a transport point of view - that its inclusion in the 'Core Network' is warranted. The Core Network also includes the following seaports: Durres, Rijeka, Split, Dubrovnik, Ploce, Bar and Vlore.

The airports of the EU strategic network serve the five capitals of the region and the cities of Banja Luka, Split, Dubrovnik, Nis, Pristina and Podgorica. It is realised that, in the long term, some concentration of traffic is likely to occur. At the moment, however, there is no basis for proposing further concentration.

Figure 2: Core network - rails




Source: REBIS – Transport, EC 2003

The Core Network described above will provide efficient communication links between the capitals and other key cities of the region, and link the region to the capitals of neighboring countries. In the subsequent phases of work, REBIS will only consider projects which relate to the 'Core Network'. The traffic volumes on the various links will vary considerably, and the development of the links should take this fully into account. For the roads, for example, some links will have to be developed into full motorway standard, whereas other links may remain two-lane highways for a longer period. (EC, REBIS, 2003, p 25)

## The Upgrade of the 'Core Network' - SEE Transport Grid

### *Upgrading Attempts*

The 'Core Network' project of European Union presents one possible strategy of the traffic development in the SEE region. The need for a common strategy is unquestionable. But one must always, even just for the sake of thought experiment, consider some other possible options. Transport development strategies, just like any other strategy, are often changed, expanded, prolonged or even abandoned. Therefore, instead of praising the 'Core Network' further (it is by all means positive

concept) we will try to point out some of its weaker sides and propose a slightly different view of the transport development strategy for the SEE region.

Firstly, the need for the improvement of the infrastructure is unquestionable. Since the funds are limited, costs needed to upgrade the network must be assessed. The design speed of roads in the REBIS strategy is set at 80 km/h for express and ordinary roads, and 120 km/h for motorways. In addition, the minimum width of a 2-lane road is 7m of asphalt carriage-way, preferably with paved shoulders. For railways, only corridor X has been assumed to be upgraded to 160 km/h and to double track. For other lines modernization has been assumed (electrification, signaling and telecommunication) but speeds have been set at 100 to 120 km/h.

Every improvement of the infrastructure is welcome, but the question about the level of chosen standards remains open. The long-term investment requirements for the core road and rail networks calculated and presented in the REBIS strategy, equal EUR 16, 5 billion. Investments required in the railway sector account roughly for 3/4 of the aforementioned amount. However, according to the study, the amount of the traffic on many lines may be insufficient to economically justify the high construction costs. For each mode of transport the forecast model has been constructed. The assumed growth rates of GDP and population and assumed elasticity determined the forecasted level of traffic for each country and mode of transport. Using the model, forecasts were made for 20 years period.

Unfortunately, the data about the costs needed to upgrade the network to higher standards than the one proposed in the study are missing. It would be interesting to see how much the required investment would be higher if the 4-lane highways and higher speed rails have been set as a standard for a core network. There is no doubt that the amount needed in that case is higher, but the question is for how much, and what could be saved if full profile is built at once when workforce and machinery are already on the field. Investing significant amounts of money and reaching the 20th century infrastructure standards can be seen as an improvement, but the question remains open whether the 20th century infrastructure is what SEE countries really need in the 21st century. The inappropriate level of traffic infrastructure could cause a sort of negative selection of foreign direct investment, meaning that the most propulsive companies and sectors will choose the countries and regions with more advanced infrastructure, instead of the regions with the backward infrastructure. Higher infrastructure and transport cost could offset the effect of lower wages in such areas. Therefore, the standards proposed by this strategy needs to be reconsidered, taking into account the long-term implications of selected level of the infrastructure.

## Modern SEE Transport Grid

The infrastructure is a key element of the strategy for the economic development of the countries in the region and their integration into the EU market. Reforms oriented towards the establishment of a market economy introduced in all countries of the region can succeed only through increased cooperation. Conflicts in the region have led to diversion of traffic towards other routes, and inclusion of these other routes in the traffic development strategies of the EU. These are represented by blue lines in the Picture 8. The roads marked with green present existing pan-European corridors, while the purple-lines stand for SEE Transport Grid. Full potentials of the 'Core Network' are realized by its extension and connection with established transport and traffic routes.

Since the EU plays an important role in repairing the damage caused by the conflicts, it should not allow that the SEE region remains isolated. The important part is to connect 'Core Network' with European core transport networks, and by creating the SEE Transport Grid, enable not only the integration of the countries in the region, but also integrating the region into Europe. The cooperation and integration of the countries in the region is important but not sufficient condition of economic development. Without full integration of SEE countries into EU, they will remain a white spot, or an isolated island, which transport infrastructure will consist mostly of 'blind alleys', with backward two-lane highways and one-track railway network, both of them unable to attract modern transport.

Therefore our attempt to improve existing projects is stylized in the SEE Transport Grid project that would fit SEE region in the EU core transport corridors by the mean of east-west and north-south new four-lane motorway and two-lane fast railway routes.

The first proposed route is connecting Adriatic-Ionian transport corridor with EU core network. We think that the development of the Adriatic-Ionian traffic corridor is a project with very high development impact on the economies in the region. This transport corridor would follow the Adriatic coastline at an ecologically acceptable distance. It would start in Trieste and run towards Rijeka, Knin, Dubrovnik, Podgorica, Tirana, and Vlore to Igoumenitsa and finally Patra. In fact, it would connect Corridor V in Italy, run through Slovenia, Croatia, Montenegro, Albania and finally joining Corridor VIII in Greece.

The second proposed route, running east-west, from Munich and Salzburg, connects Ljubljana, Karlovac, Bihać, and Sarajevo, where it forms two branches, one running towards Nikšić, Durres and Igoumenitsa, and the other from Sarajevo to Novi Pazar, Priština, Skopje and Thessaloniki... This route is connecting Corridor IV from Germany, running through Austria, Slovenia, Croatia, especially important part of Bosnia and Herzegovina, to Montenegro, Albania, Kosovo and Macedonia

respectively, with Corridor VIII and joining circumspect route of the Corridor IV the at two points in Greece: Igoumenitsa and Thessaloniki.

Third route, running east-west is already established Corridor X, starting in Austria, going through Slovenia, Croatia and splitting in Serbia towards Macedonia and Greece and Bulgaria and Turkey.

Figure 3: SEE transport grid

Fourth east-west route starts in Maribor, and goes to Varaždin, Osijek, Novi Sad, Timisoara, Cluj-Napoca, and Chisinau. It connects V corridor in Slovenia, with IX corridor in Moldova, going through Croatia, Serbia and Romania.

The north-south SEE Grid proposal starts with the extended Vb Corridor, beginning in Pula and Rijeka, running through Zagreb where it splits in two directions, towards Vienna and Budapest, connecting Croatia, Hungary and Austria.

Second north-south route starts in Split, goes to Banja Luka, Virovitica and ends in Bratislava. It connects Adriatic-Ionian corridor with IV corridor going through Croatia, Bosnia and Herzegovina, Hungary and Slovakia.

Third north-south route is already established Vc corridor, starting in Ploče, running through Sarajevo, Osijek to Budapest. It connects Adriatic-Ionian corridor with corridor IV in Budapest.

The next route starts in Dubrovnik and goes to Novi Pazar, Negotin and Bucharest. It connects Adriatic-Ionian corridor in Croatia with IV and IX corridor in Romania, going through Montenegro, Kosovo and Serbia.

Fifth route of the SEE Transport Grid starts in Bar, goes through Belgrade and Timisoara. It connects Adriatic-Ionian corridor in Montenegro with IV Corridor in Romania, going through Serbia.

The next route starts in Tirana, goes to Pristina, Belgrade, Szeged, and L'viv. It connects Adriatic-Ionian and VIII corridor in Albania with III corridor in Ukraine, going through Kosovo, Serbia and Hungary.

## Conclusion

When transport is concerned, South Eastern European economies are in general burdened with a historical legacy, manifested in underdeveloped utilities, especially in transport. Due to its historical underdevelopment, caused by the negligence of planning mechanisms, transport and communications in general have become significant constraints to the economic development. Such conditions have put serious constraints on the role of the traffic and transport infrastructure for the future economic development of the SEE region.

The analysis of basic development and traffic indicators shows the countries of the region are below an economic level comparable to EU standards. This underlines the need for closer cooperation among SEE countries and the creation of conditions leading to a closer economic integration with the EU and the strengthening of mutual ties. Even more significant differences between SEE countries and EU countries exist when some basic facts about the state and the level of the traffic infrastructure in SEE countries are compared against selected EU countries. It is possible to say that the

traffic infrastructure in the region is underdeveloped, and that the further investments are needed, in order to reach the level of development in EU.

The trans-European transport network (TEN-T) has a crucial role in securing the free movement of goods in the European Union. Transport is essential for economic competitiveness and commercial, economic and cultural cooperation, and the common transport policy is one of the cornerstones of the building of united Europe. With the enlargement of European Union transport policy and trans-European network need to be extended across the continent, and Europe must rethink its international role if it is to succeed in developing efficient transport system. As a result, TEN-T priority axes and projects list was extended, but it is evident that there is a part of the SEE region that was omitted from this revision of the TEN-T priority axes and networks.

In 2002 the EU Commission launched the Regional Balkans Infrastructure Study, - REBIS project. The project focused on assisting countries of the region to develop coherent strategies for transport infrastructure development and, in particular, on the development of infrastructure which interlinks the countries of the region, or which links the region with the rest of Europe. The 'Core Network' includes 4300 km of railways across the five SEE countries, 6000 km of roads, major ports and airports, and, the inland waterways. The total cost of developing the 'Core Network' has been estimated at over 16 billion, and 17 priority projects have been identified.

The 'Core Network' project of European Union presents one possible strategy of the traffic development in the SEE region. This project is by all means positive concept, but it has serious constrains. We have tried to analyze these constraints by pointing out still existing 'white-spot' policy towards the SEE region. EU Priority transport corridors are in essence still giving the SEE region wide berth.

Without full integration of SEE countries into EU, they will remain a white spot, or an isolated island, which transport infrastructure will consist mostly of 'blind alleys', with backward two-lane highways and one-track railway network, both of them unable to attract modern transport.

Therefore our attempt to improve existing projects is stylized in the SEE Transport Grid project that would fit SEE region in the EU core transport corridors by the mean of east-west and north-south new four-lane motorway and two-lane fast railway routes

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