

**INITIAL SCOPING PHASE OF A
STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)
OF THE MULTIMODAL TRANSPORT CORRIDOR
WARSAW-BUDAPEST**

FINAL IN-COUNTRY SCOPING REPORT, HUNGARY

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The project team wishes to express its sincere appreciation to all those without whose help it would not have been possible to carry out this project in the time envisaged. Care was taken to include all comments received and to reflect many views. However this document may not be interpreted as representing any views other than those of the authors and is not an official standpoint of the institutions represented by individuals who commented on it. Any remaining inaccuracies are attributable solely to the authors.

1 EXECUTIVE SUMMARY

The task of the Warsaw-Budapest inter-regional transport corridor is not just connecting the two cities, but connecting the regions, namely all the regions that fall into the given zone. The corridor does not end either at Warsaw, or Budapest, but it goes on in northern, and southern directions.

In 1977 ten countries agreed upon the building of a North-South motorway of the Trans-European Motorway system (TEM). In the 90s with the abolition of the iron curtain the stress was solely put onto the East-West corridors, and the Eastern extension of the TEN.

The elongation of the TEN became the basis for the TINA network, and is still considered as priority by the European Union. In the high-priority magistral network of TINA there is no connection between Slovakia, and Hungary East from Bratislava in a 660 km long borderline.

Within Hungary all the Pan-European priority axes both in the railway system, and in the motorway network go across Budapest.

Those TINA corridors, suggested by the TINA members themselves are considered as secondary in European concerns. In the same time these lines are not the least secondary considering the Hungarian spatial structure. This is where in the Hungarian railway system both in North-South, and in East-West directions appear the network elements that pass by Budapest, and by that dissolve the over-centralised structure. Unfortunately in the case of public roads the importance of the network system and the need for dissolving the over-centralised structure – even more problematic than in the case of the railway – is not yet accepted in the official development plans.

The rail section of the Warsaw-Budapest multimodal corridor can reach the country at the border line between *Rajka* and *Hidasnémeti*. The railway line coming south through the valley of the Vah could reach Hungary only through Bratislava, – according to the existing plans – at Rajka, Komarom, or Szob. In the freeway network there will be a shortcut in the valley of the Vah between Nitra and Nove Zamky and can reach Komarno directly in compliance with the plans. Through the region of Banska Bystrica a freeway connection with non-motorway characteristics will reach Hungary at Parassapuszta or Somoskőújfalu. The Sturovo-Esztergom connection is not a significant one in its continuation in Slovakia. The development of the road 10 in Hungary to become a freeway can be taken as a mistaken attempt. As for the eastern side of the country, the rail can also use the Budapest–Miskolc–Kosice direction, but the real value would be given to that channel if the Polish section would also be given high priority

In the continuation of the Parassapuszta-Vác section a settlement-bypassing highway has been built between Vác and the capital, that recently often indicated as M2 freeway. Since this road has been aimed at the capital directly, it could only be continued by touching Budapest. If this corridor ever gets a role in the future then it would be much more advantageous to set the north-south continuation of the corridor in the Vác-Gödöllő-M0 direction. It has to be also a question of high priority in the SEA whether it is allowed (and where) the crossing of the Danube Bend as of sensitive resort and natural area

The other centre of the further studies should be the clarification of the roles of the countrywide magistral networks, and the forming of their structure according to principles based on clear criteria. The North-South transport corridor crossing the central part of the country should be fitted into this system too.

Besides the direct environmental effects, the SEA also has to deal with the indirect effects of the corridor. Such are the economical, and social effects of the transport structure and of the given corridor, and their environmental consequences.

2. METHODOLOGY

The preliminary document summarises shortly that besides its importance, what are the problems the EIA disposes with. (reacts rather than creates alternatives, focuses on a given investment proposal and does not really take into account consequences of parallel developments etc.) and introduces SEA as a tool for assessments of earlier phases of thinking: namely in the phases of policies, plans and programs – altogether called strategies.

While this description gives an idea how SEA originated, we have to underline, that SEA turned out to be a more general tool of evaluating environmental capacity. On the meeting we also presented the clear "distinction matrix" we learned in Szentendre

EIA	<i>has legal frame, standards, limits</i> relates to projects deals with environmental impacts
SEA	relates to policies, plans, programs deals with environmental objectives

We can consider that our task is to make the four starting phase of a SEA, namely underline the necessity of the SEA in the given case, forming a working program, determine the objectives of the given SEA and the scoping, that last was understood as *establishing physical limits, targeted impacts and alternatives*

Naturally also important to mention, that our group – parallel with similar groups in Poland, Slovakia and Czech Republic – was commissioned by REC to carry out a brief initial scoping phase of a Strategic Environmental Assessment (SEA) of the multimodal transport corridor Warsaw – Budapest (road and rail mainly).

Given the timing of the project the documents had to be screened to identify those most relevant to the project and which could be obtained and analysed during the time available. The final choice was guided by the recommendations of the meeting held for project focal points in Szentendre on 9-10.04.2000.

A public meeting were held within the scope of the project: in Budapest on 25.04..2000. The meeting was based on a preliminary document sent to those invited and a series of questions also underlined in the letter of invitation. As at this phase the project is rather dealing with methodological questions and with a kind of com-

mon understanding of the whole approach, than real investment possibilities, we invited first of all ministerial authorities – Ministry of Environment, Ministry of Transport (Communication and Water Management) and Ministry of (Agriculture and) Rural Development – other authorities (as Road and Motorway investment and management, Hungarian Rail Company, Directorates of potentially touched National Parks,) and designers from planning institutes or researchers in the topic of transport, regional planning and environment. We also invited three bigger NGO groups working in the touched area and dealing also with transport problems. Altogether we invited 40 people of whom eleven personally participated at the meeting while we could consult with another five separately. The meeting was led by Tamás Fleischer (Hungarian responsible) and László Pernecky (from the part of REC).

The English draft of the scoping document was send to REC on 04.05.2000 The final draft was send on 10.05.2000, while final document will be translated into Hungarian and circulated.

3 THE CORRIDOR

Our starting point was, that *the corridor not starts or ends in Warsaw or in Budapest*, but the Warsaw–Budapest section is a part of a longer European North-South corridor. The other important issue is, that the corridor in not just a connection between single cities, but a *connection between regions*.

At the meeting a new need occurred to define what the *corridor* is and what the *multimodal* means in that context. There was a general opinion, that the corridor is the whole wide "ribbon" of the touched regions, and not just the channel of the transport in it. On the other hand *multimodal* means that the *regions* are interconnected with different transport modes, but not necessarily means that the single transport channels have to dispose both with road and rail connections. Creating big capacity multimodal channels ("motorway plus double track electric railway") would need a kind of collection of the traffic into this channel, leaving extended neighbouring territories without local possibilities of North-South disposition, and the participants of the meeting considered that as disadvantageous option. There was also a short debate if in longitudinal sense the channel have to dispose with equal characteristics or not. The final conclusion was that there has to be a good level of service that at any section should be achieved, (as 120 km/h railway, or double track road with good pavement) that characteristics can be improved if local traffic needs it but all along the line have to be kept as a minimum.

The preliminary document tried to place the corridor into *temporal, spatial and network* context.

3.1. Historical corridors between Poland and Hungary

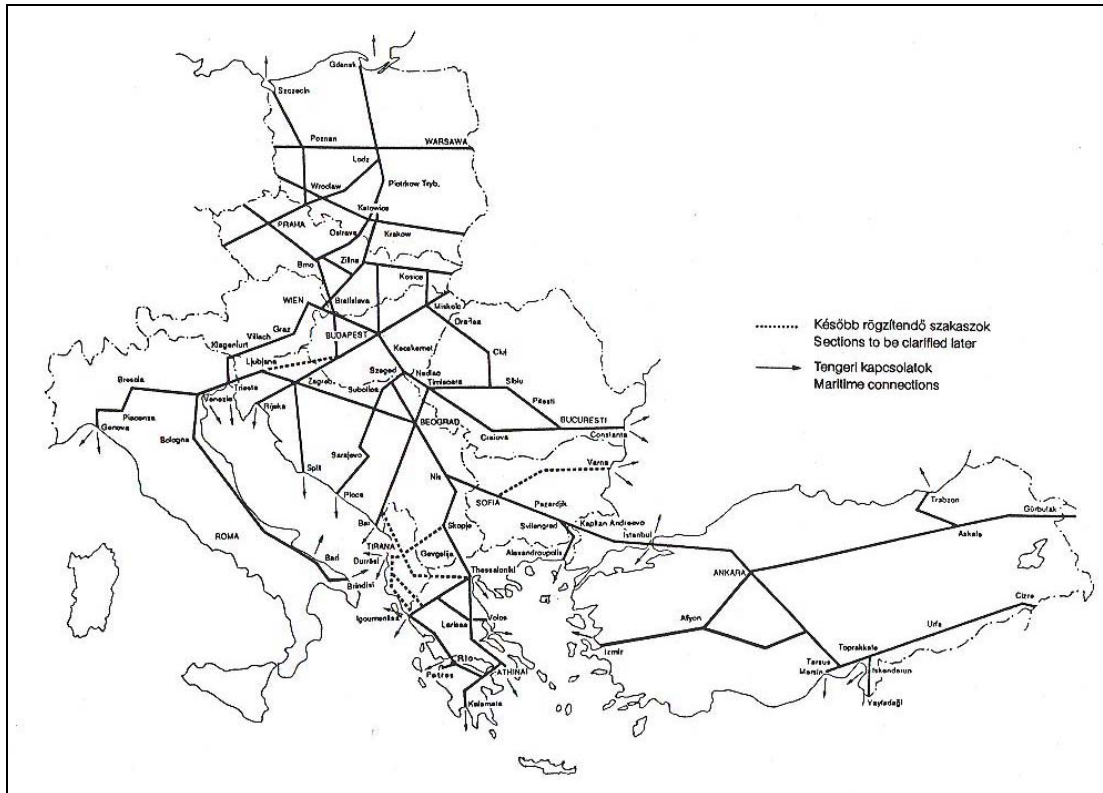
Although it has no direct influence on nowadays' freeway projects it is worth looking back in time to see the Polish-Hungarian relations from the Middle ages. Cracow used to be the Polish capital until the beginning of the 16th century and even in Hungary only part of the time had Buda been the chief town of the country. Still it is important to underline that the main connection of the Polish-Hungarian relations - also the way of the Hegyalja (Tokay wine growing area) wine-trade -- led through the Hernád valley through Kosice towards Cracow. On the Western side the so-called Amber Road led more towards Moravia. The location of the main trading routes (publica strada) can be seen by listing those towns which achieved staple right in the 13th century. The importance of the valley of the Danube is shown by such role of *Pestujvar* (now Buda), *Gyor*, and *Bratislava* (and of course *Vienna*). Further more near the valley of Vah *Trnava*, and in the valley of Hernád *Kosice* and *Levoca* bore the staple right. In the next century in 1335 one of the reasons for convening the Visegrad Congress was that Vienna renewed its staple right making by that the trading towards the west impossible. The rulers at Visegrád wished to assure the northern relations to enable by-passing Vienna on the one hand towards Kosice-Levoca-Cracow, and on the other hand through the mining area (Banska Bystrica), through Zilina towards Brno.

Naturally it is enough to look at a physical map to understand why the direct relationship between the Danube valley and Poland had a secondary importance. From the two river valleys that lead to the north breaking through the Carpathian mountains on the Eastern side the Poprad joins to the Hernad valley, while on the Western side close to the Vah the Odera valley arrived to Silesia rather than to Poland and for a longer period that was a different country. Naturally in the 19. century the rails were also built along the main river valleys.

3.2. TEM north-south Trans-European Motorway

We jump about a century to the 1970s. It was a pioneering enterprise of ten countries (Austria, Bulgaria, Czech-Slovakia, Greece, Yugoslavia, Hungary, Poland, Italy, Rumania és Turkey) when they decided and set in contract in 1977, that they built a high performance motorway network that would be called as Trans-European North-South- Motorway (TEM) and would connect the Northern, Southern and South-Eastern part of the European continent. [5]

The novelty of the plan was that the TEM was treated as one unity of motorway system that networks 10 countries. An important part of the project was that it started to harmonise the different technical norms and the different transport policy approaches of the countries included, in the frame of a planning process.



Source: Dr. Vásárhelyi Boldizsár–Katona Jenőné [5]

Figure 1. The Trans-European North-South Motorway network (TEM)

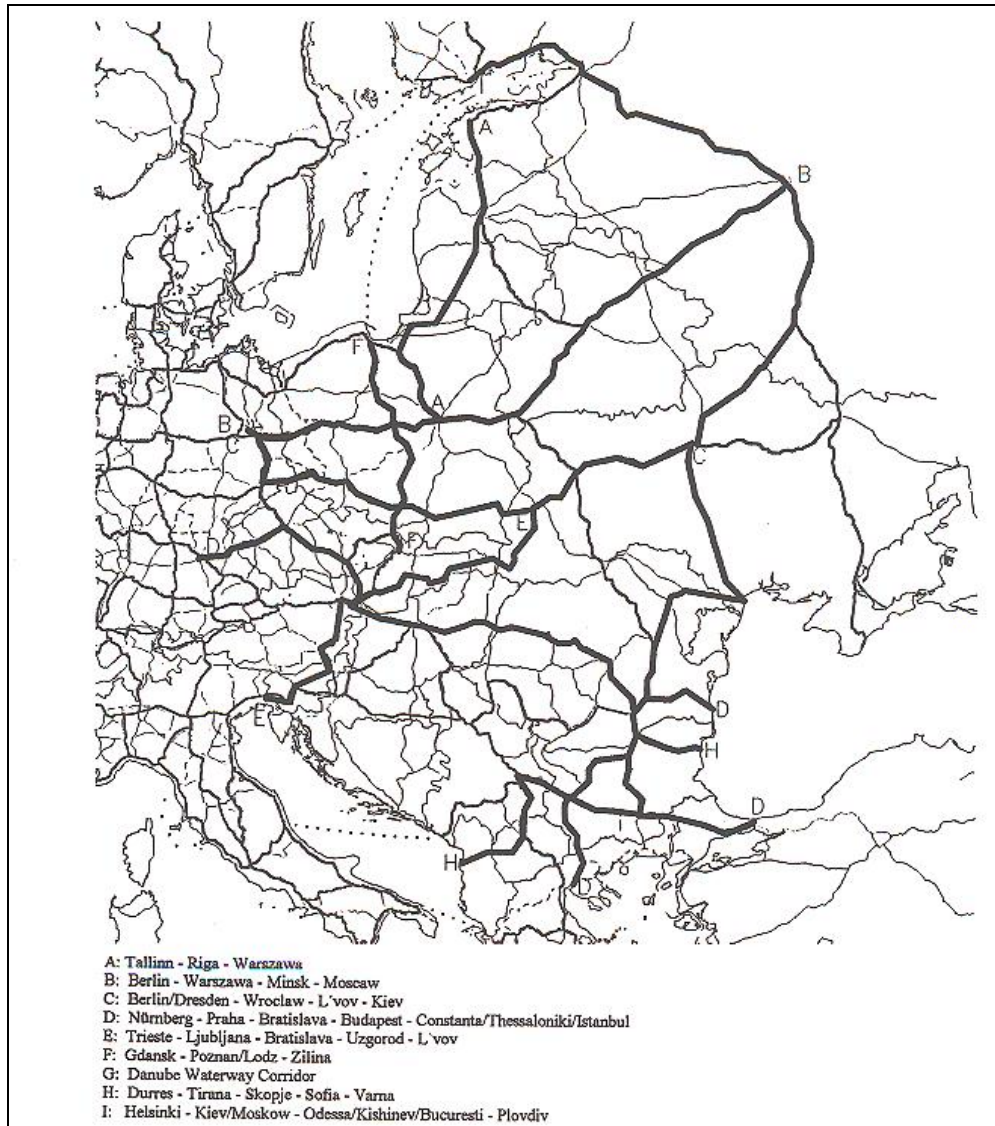
Figure 1. shows the 10970 km long planned network that is made up of a Gdansk–Ankara motorway as a backbone of the network and its east-west extensions. Practically the plan forced the countries included, first of all those between the iron-curtain and the Soviet Union thinking over their whole future motorway network.

Concentrating on the part of the corridor at issue, we can see that the backbone of the TEM in the North-South direction is basically passing through Poland, Slovakia (not yet separate at the time from the Czech Republic) and Hungary's central line.

Although the TEM project was not officially cancelled, it has been neglected since the beginning of the 90s. In the countries in question due to the political changes and the rearranging of the trade connections, the east-west relations has come to the foreground, thus the existing and planned transport system of these countries has been re-evaluated from a new angle: namely there became dominant the analysis of the question, whether which network elements are able to serve as the extension and elongation of the TEN overlaying networks (plans) created by the European Union.

3.3. Pan-European corridors

The change of the view point is well seen on *Figure 2*. from 1994, where the international AIT/FIA forwarders' organisation give their plan for the EU Committee about the suggested structure of the eastern part of the Pan-European Motorways [6].



Source: AIT/FIA Proposals for an European Motorway Network. Report 1994 [6]

Figure 2. EU corridors in Central and Eastern Europe (proposal)

It is a priority in the plan, that the prolongation of the east-west corridors of the EU should cover the wide eastern side of Europe, but only a secondary subordinated topic was the case of the north-south directions, not at all caring in this respect about continuity or about the corridor view. As a consequence, the magistral north-south

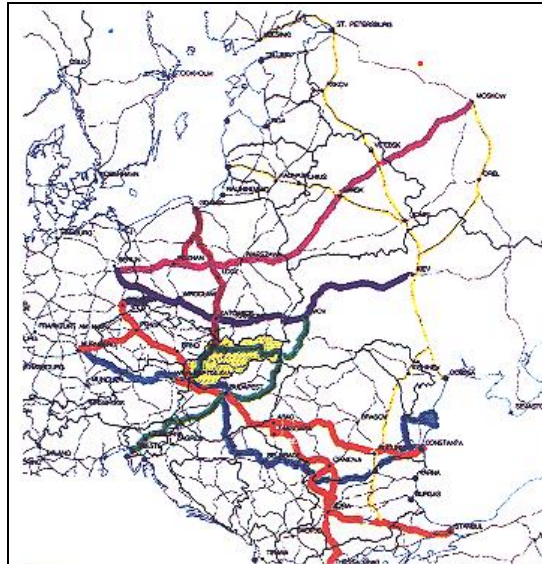
line of our region ends in Vienna, and has no continuation within the region. Generally it can be observed, that for the eastern bastion of EU, namely for Vienna and for Berlin the good rayon-like connections are given (and this network is also advantageous for Bratislava) but otherwise the internal connections of the Central-European region is not solved. It is also characteristic, that following from the 1993-94 political situation, the plan doesn't deal with the Croatian, Serbian, Bosnian areas and consequently there also missing the neighbouring connections that would lead to these direction.



Source: Facts and Data on the Hungarian Roads 1998 KHVM [7]

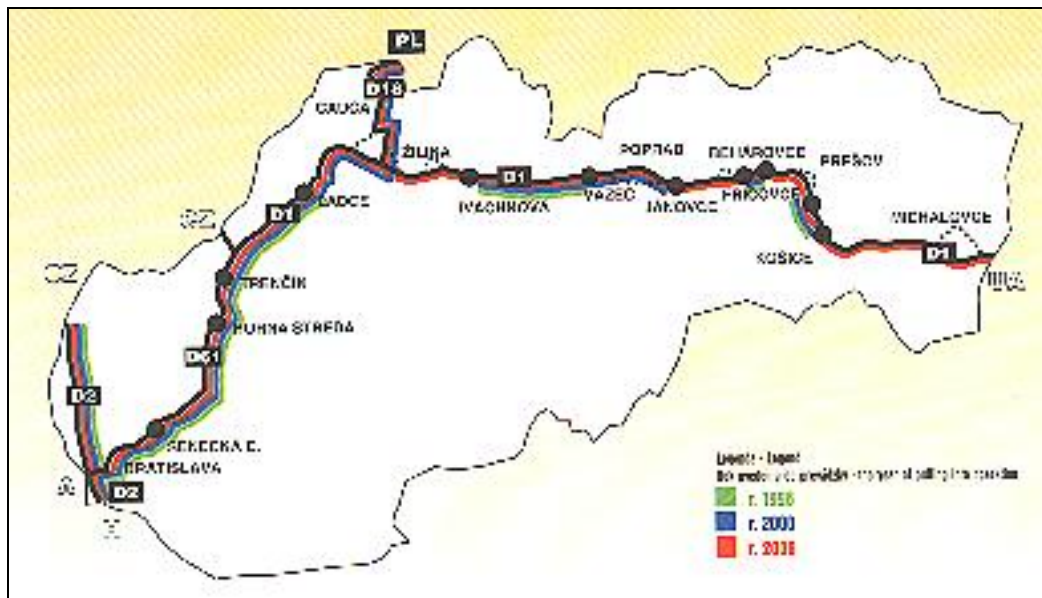
Figure 3. "Magyarország Európában" [=Hungary in Europe] The map takes over the suggested Pan-European connections

Similarly the actual political situation was projected to the future in those plans worked out in 1997 in Hungary or in Slovakia, where the planners adapted without any criticism the EU proposals for the Pan-European networks. On *Figure 3*. we present the planned corridors by a Hungarian booklet, issued by the Ministry of Transport [7], where on the 668 km long Slovak-Hungarian border there is no magistral connection between the countries at a continuous 660 km section.



Source: Ministerstvo Dopravy, Post a Telekomunikácii Slovenskej Republiky [8]

Figure 4. The Pan-European networks on the booklet of the Slovak Ministry



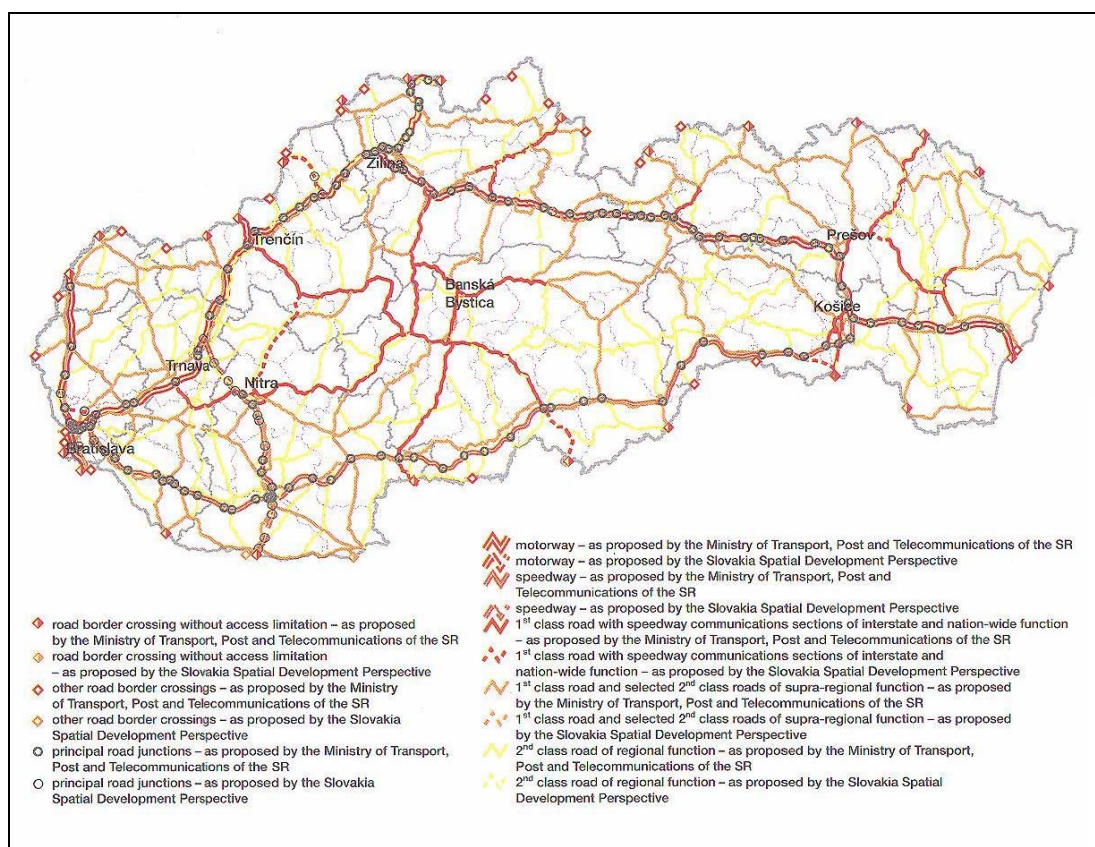
Source: Ministerstvo Dopravy, Post a Telekomunikácii Slovenskej Republiky [8]

Figure 5. Slovak motorway plans from 1998

On *Figure 4* we can see a similar network originated from the cover of a booklet of the Slovakian Ministry of Transport, Post and Communication [8], while on *Figure 5* we present the official Slovakian motorway plan of the same period of time.

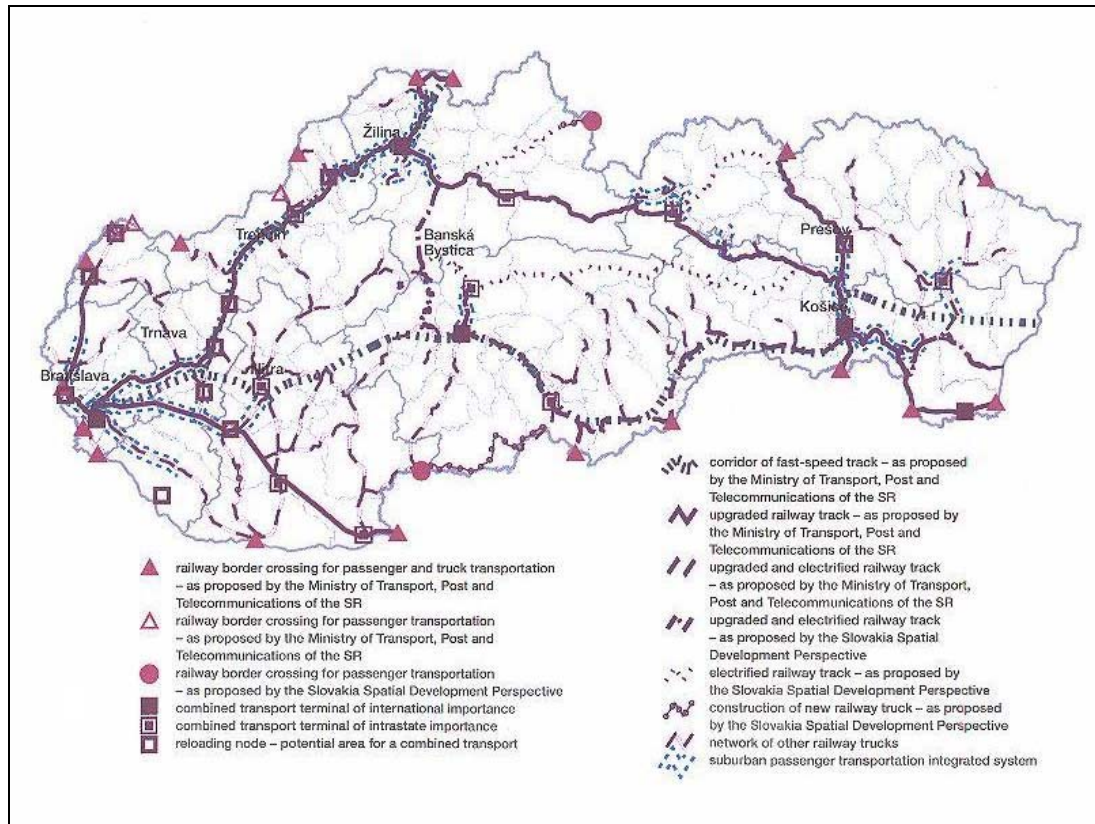
3.4. In-country transport corridors

By now we are over the period, when the East-West corridors had no importance at any sides of Europe, and we hope, we are over the other period, too, when as a counter-effect exclusively the western connection had real significance. In the Slovak Republic the structural conceptions have been re-evaluated and both in case of road and rail even in-country planning the corridor view was applied. As a consequence, two east-west and four north-south corridors has been created from where in two cases the rail is not present with a connection of high priority. As for the road corridors, two and two respectively are planned as motorway in the long term, while the others will remain simple freeway.



Source: Slovakia Spatial development perspective 1999 [9]

Figure 6. Road structure proposal in the Slovakian spatial Plan



Source: Slovakia Spatial development perspective 1999 [9]

Figure 7. Rail structure proposal in the Slovakian spatial Plan

The Slovakian Transport Policy has been re-evaluated in February, 2000, and during this process the new conception worked out in co-operation with the Ministry of Environment has been in-built into the objectives and tasks.

We deal below in more details with the Hungarian Transport Policy and with the National Spatial Development and Land Use Plans. From the point of view of the Warsaw–Budapest corridor the fact that where from Slovakia the road and the rail can arrive to Hungary creates a kind of condition. So on one side we take into consideration below the introduced Slovakian programs, while on the other side, in the frame of this project naturally we co-operate with the group elaborating the Slovakian scoping document.

4. ANALYSIS OF THE PLANNING FRAMEWORK (ALTERNATIVES)

4.1. Overview of existing transport-related strategies

We dealt here with transport policies (official, NGO or initiated by the environmental side) and also with regional or general development plans and environmental policies and programmes.

In accordance with the project guidelines the main international document analysed was Transport Infrastructure Needs Assessment. Final reports (TINA). This document was used as a point of reference in assessing the national documents.

Table 1 Transport-related strategies analysed

Policy (strategy)	Time-span	Elaborated (year)	Elaborated by	Formally approved by	Remarks
Transport Infrastructure Needs Assessment (TINA)	until 2015	October 1999	TINA Secretariat	approved as final report by representatives of the ministries of transport	has not been accepted or approved as official document of an international institution
Hungarian Transport Policy	Until 2010	1993/1994	Ministry of Transport, Communication and Water Management, Institute of Transport Sciences and a wide group of experts	Hungarian Government in 1995; Hungarian Parliament in 1996 (Parl. Resolution 68/1996)	formally in force; practically in many cases was not followed; a formal revision and prolongation of time span to 2015 is just in course
Ten-years freeway program	1998-2007	1997	Ministry of Transport, Communication and Water Management	Government Resolution 2119/1997 (V.14.) modified by 1085/1997	First modified in the same year
Ten-years freeway program	2000-2010 (2000-2005)	1999 2000	Ministry of Transport, Communication and Water Management	Government Resolution 2117/1999 (V.26.) modified in 2000	In 2000 (II.29.) declared to accelerate and finish in five years
National Regional Development Concept		1997/98	Ministry of Environment and Regional Development	Hungarian Parliament in March, 1998 (Parliamentary Resolution 35/1998 (III.20.))	
National Regional Physical Plan		Since 1998-	Institute for Town and Regional Planning	Not yet	There exist a last 1999 November draft for consultation
Hungarian Na-		Since 2000	Ministry for Eco-	Not yet	The first draft is

tional Development Plan ("Szechenyi Plan")			conomic Affairs		on the Internet since March, 2000.
National Environmental Protection Program (NEPP)	1997–2002		Ministry of Environment and Regional Development	Hungarian Parliament 1997 (Parliamentary Resolution No. 83/1997 (IX.26.))	
Action Plan for NEPP, Sector Program for Transport		1998	Ministry of Environment and Regional Development, COWI	Not approved	There was an introductory meeting for Transport Ministry in March, 1999. The Program has no legal force.
Environmentally Sound Transport Policy		November 1994	Hungarian Traffic Club The elaboration was requested and financed by the Ministry of Transport	not applicable (proposition by an independent group of experts)	NGO document

4.2. Description of individual strategies

General information on the formal status and time span of the policy documents analysed are given in Table 1 above. This paragraph gives a brief outline of the general objectives of the strategies analysed and their reference to the Warsaw-Budapest corridor. The consistency of the policies and resulting activities will be described in chapter 4.3 below.

4.2.1. Transport Infrastructure Needs Assessment (TINA):

TINA is a document created at the request of the European Commission, in order to identify the needs for investment in transport infrastructure in the candidate countries of the EU, resulting in particular from the extension of the Trans-European Transport Network. The report was endorsed by delegates of Ministries of Transport of the countries involved but has not been officially approved by an international institution or adopted at national level. The document deals almost exclusively with transport infrastructure, assuming demand generated by transport intensity suggested by an earlier study (maximum value suggested) and as such is not a strategy. TINA deals only with the direct costs of network establishment (modernisation or construction) and does not consider the direct or indirect environmental and social benefits and costs. TINA acknowledges the existence of bottlenecks even after the establishment of the network.

Overall objectives:

- the network should follow EU Guidelines for the development of TENs
- technical standards of TINA infrastructure should ensure consistency between the capacity of network components and the expected traffic
- the network should be in place by 2015
- the cost of the network should not exceed 1.5% of country's annual GNP up to 2015

Corridor related priorities and proposed activities:

The document includes a list of investments to be carried out on road and rail infrastructure.

4.2.2. The Fifth EC/EU Environmental Action Programme

"Towards Sustainability" is the Fifth Community Action Programme on the Environment and covers the period 1992-2000. Five key sectors were targeted in the Programme because of their environmental impacts, and transport was included. Against a context of increasing congestion and pollution from transport the strategy contains the following objectives:

- improved land use and developing planning,
- better management and use of existing facilities and incorporation of the external costs of transport (including environmental costs) into both investment planning and into user charges,
- improving the competitive position of 'clean' modes of transport – such as railways, inland waterways sea transport and combined transport,
- development of public transport,
- continued technical improvements leading to less polluting vehicles and cleaner fuels,
- encouraging a reduction in the use of private vehicles.

4.2.3. The Transport Policy of the Hungarian Government

The officially valid Hungarian Transport Policy was prepared in 1993/94, it was approved by the Government in 1995 and by the Parliament in 1996 [10] The Hungarian Transport Policy defines five main strategic objectives, as follows:

- the promotion of the integration into the European Union,
- the improvement of the conditions of co-operation with neighbouring countries,
- the promotion of a more balanced domestic regional development,

- the protection of human life, nature and built-up environment,
- the effective and market-oriented operation of the transport system.

Ad (4) In the Transport Policy of the Hungarian Government: Targets within the promotion of human life, nature and built environment:

- improvement of transport safety, the decrease of number and seriousness of road accidents,
- a implement the existing rules relating the transport of hazardous goods,
- improvement of the co-operation between different modes of goods transport, increase of the combined transport in the import, export and through (transit) relations,
- do not increase, and in case of the majority of air pollutants do decrease the emission of the materials directly harming the human health,
 - application of more severe, internationally accepted norms for the newly marketed cars,
 - the construction of roads not crossing the inhabited areas,
 - the preference of the rail and the public transport,
- the support of the operation of more silent vehicles,
- for decreasing the pollution of soil and water:
 - to finish selling leaded fuels,
 - to decrease to a minimum the use of the de-frosting chemicals and materials,
 - to give a priority of purchasing technically up-to-date vehicles,
- a continuous expansion of those transport development, -maintenance and -operation modes that can ensure the reservation of protected natural areas and values.

Corridor related priorities

The Transport Policy considers as a focal point its first objective (the promotion of the integration into the European Union) giving a priority to the construction of the extended TEN (East-West) Pan-European corridors. (In the mid-90s that was the direction of the general expectation). The North-South corridors were not considered equally important.

4.2.4. National Regional Development Concept

The Hungarian Parliament approved by the Decision 35/1998 (III. 20.) The National Regional Development Concept of Hungary. The overall aims of the regional development concept are the followings:

a) on the whole of the country:

- establishment of cultural and financial welfare of the citizens and the nation,
- promotion of the establishment of the social market economy,
- improvement of permanent economic growth and competitiveness, provision of the conditions for sustainable progress,
- promotion of the spatial spread of innovation, increase of fund-raising power of settlements, counties, regions, and improvement of their ability to contribute to developments,
- elaboration of due spatial structure for social, economic and environmental aims, promotion of the harmonic development of the spatial and settlement structure of the country;

b) decrease of regional disparities between

- regions,
- counties,
- the capital and the provinces,
- cities and villages,
- developed and underdeveloped regions and settlements,
- Eastern and Western Hungary

in the conditions of life, economy, education, culture, health care, social care and infrastructure; and

- avoidance of the formation of new crisis areas, in order to provide equal social chances.

Main sector priorities of National Regional Development Concept in the field of environmental protection

- one of the most important aims of regional development is the maintenance and improvement of environmental characteristics required for the due quality of living, especially in regions endangered by environmental pollution,
- in order to maintain the optimal state of the environment, the effect of transportation corridors, financial and commercial networks, multinational companies, energy transportation systems and transit traffic on the unique ecosystem of the Carpathian basin must be regularly examined and evaluated,

- regional development must be carried out along with the protection of natural systems and natural values and maintenance of the diversity of the biosphere,
- regional development plans must be prepared and implemented with reasonable and harmonic use of the environment; at the management of natural resources, it demands the enforcement of the principle of sustainable progress, and the long-term preservation of environmental factors considered as basic elements of life (air, water, soil) and their condition.

Main sector priorities of the National Regional Development Concept in the field of transportation

- construction of the network of freeways and modernisation of railways, development of waterways on rivers Danube and Tisza must be accelerated for the better accessibility of regions, and for the better use of advantageous geographical position of the country,
- developments of airports capable of regional roles must be given more attention, based on enterprises,
- in order to moderate environmental pollution, the rate of combined transportation, water and railway transportation must be increased;
- logistical centres must be established in the region of suitable border stations of international importance;
- the program of establishing relieving road-sections by-passing settlements must be continued,
- the quality and level of public transportation must be improved further on,
- in accord with the transportation policy of the European Union, quality transportation roads connecting to the European transportation corridors crossing Hungary (IV., V., V/C., VII., X/B. roads) must be improved.

("– the most important task in the field of public road constructions is the establishment of a high road network straight to the national border, since this will facilitate the following:

- the connection to the European road network,
- the easier construction of cross-border connections,
- the quiet and regulated management of the transit traffic,
- the quick access to the regions of the country.")

Further corridor-related priorities

(a selection of the more detailed principles of the National Regional Development Concept on the whole country – relating the spatial structure of Hungary)

- alteration of the excessively Budapest-centred configuration, by the development of centres capable of growing,
- supplementation of the radial-structure technical infrastructure networks with collared or transversal elements,
- in agglomerating regions, the establishment of land use policy for the healthy balance and harmony of built and natural environment; moderation of the extensive growth.

4.2.5. National Regional Physical Plan of Hungary (Spatial Structure and Land Use plan) (draft phase)

The plan that is still under construction has last been issued at the end of 1999. It has no legal validity yet. Within the plan the objectives of the Spatial Structure Plane is the following:

- fitting into the European spatial structure,
- harmonisation with the neighbouring countries' spatial structure,
- making the Hungarian spatial structure more balanced,
- the integrated forming of the infrastructure networks and the land use,
- forming of a poli-centric settlement system,
- the protection of natural resources and values,
- assuring the conditions for sustainable land use regulations.

Transport-related objectives of the National Regional Physical Plan of Hungary

- fitting into the European and Central-European system means that the road networks up to the borders that link to the EU high-priority transport corridors have to be built as soon as possible,
- taking into consideration the Hungarian needs it is a characteristic of the long term freeway network that the radial roads are supplemented by three circular elements (M0, middle ring, external ring),
- the point of the main public road network development concept is that besides the development needs of the existing roads there is a need to supplement the existing radial road system with the existing circular elements, to get the optimal network between the radial-circular and gradient structure systems
 - at a macro level there should also be diagonal roads developed, fulfilling the needs of the decentralised settlement development,

- and at a micro level: (i) the re-evaluation of the conception of the sections that pass by the settlements keeping in mind the freeway network's developmental plans, avoiding parallel developments; (ii) assuring the advantageous service of industrial parks, and logistic centres by public roads; (iii) and the finding of a solution for the separation of the slow vehicle traffic from the main network,
- the TGV lines of the Trans-European network mean the building of completely new tracks that need enormous areas,
- there is a definite need for the development of basic mainlines to the speed of 120-160 km/h, and for other lines to the speed of 100-120 km/h
- due to the decrease of the railway transport needs the abolishing of the uneconomically used side-tracks is always in question,
- the unit of the network that passes by Budapest from the south, aims at the avoidance of through traffic (transit) coming into the capital's railway network,
- the National Regional Physical Plan's main concern in dealing with the inland waterways is the development of harbours, since it appears as central in the future spatial structure of the country.:
- After the expiration of the capacity (22-27years) of Ferihegy (Hungary's international airport at Budapest) there is a need to appoint a new airport, that could be built near Kiskunlacháza,
- first the logistical centres planned along the East-West axe should be built at Sopron, Szekesfehervar, Soroksar, Szolnok, Zahony, followed by at Szeged, Baja, Győr and Nagykanizsa,
- establishment of bicycle road network mainly at frequented tourist regions

4.2.6. National Development Plan ("Szechenyi Plan") of Hungary

The first draft of the National Development Plan of Hungary was issued by the Ministry of Economic Affairs in March, 2000. This version was published to promote a general debate, so the objectives can't be considered as fixed or approved.

General objectives of the National Development Plan of Hungary

The Plan is a program within the strategy for closing the gap Hungary's economy is burdened by. Apart from the primary objective of closing the gap, the Plan also defines secondary objectives. They are: improving the international competitiveness of the Hungarian economy, fast and balanced economic growth, as well as preparation for integration into the European Union.

- European Union Accession

- Economic Philosophy is "Network Economy"
- Basic Concept is Partnership and Decentralised Co-financing
- Domestic Reality is Our Premise The Plan is not a request list but a system of prioritised development programs based on a comprehensive overview of the situation. This overview identifies

Deficiencies and Areas of Economic Lag

Opportunities and Chances of bridging the Economic Gap

Limitations and Risks of the Plan

- The Plan is a Combination of Sectional and Regional Programs
- Key Factors

In consideration of the economic lag and the breakout points, and the stability restrictions, the Plan includes the following operational programs:

Freeway development program,
Innovation program,
Home development program,
Development of Tourism,
Sub-contractor program,
Development program for Smell's, and
Regional economic development program.

Corridor-related program (1) Objectives of the Motorway Construction Program

- Linking to the European Transport Passages
- The positive Effects of the Motorway Construction Program on Hungary's Backwaters
- The Anticipated Effects of the Motorway Construction Program are the followings:
 - Positive Macroeconomic Effects
 - Positive Cohesion Effects
 - Positive Regional Pull effects

4.2.7. National Environmental Protection Programme (NEPP) of Hungary

The National Environmental Protection Programme of Hungary was approved by the Hungarian Parliament with the Decision of 83/1997 (IX. 26.) OGY. The main objectives of the Programme of six-years perspective are the followings:

- to ensure the conditions for a healthy environment, to prevent, reduce and to stop the impacts damaging and endangering human health; improve and restore environmental conditions necessary for adequate quality of life;
- to preserve the nearly-natural state of living and built environment, to safeguard natural systems and natural assets, to ensure their survival, to preserve biological diversity, to preserve information hidden in natural processes;
- to take the principle of sustainable development into account in natural resource management, to manage in an economical and protective way natural resources regarded as vital media (water, soil, air) and to preserve them for future generations;
- in accordance with the above, to realise a harmonious and realistic relationship between economic development and the environment aimed at the reasonable use of and minimum damage to the environment.

The main targeted measures in transport underlined in the chapter of programmes and policies of key sectors in the National Environmental Protection Programme (NEPP) of Hungary are as follows:

- to ensure the priority of public transport, to maintain its current proportion,
- traffic organisation and restrictive steps at the most threatened settlements and regions,
- complying with EU directives,
- steps to reduce emissions,
- to improve the conditions of railway traffic,
- support for the development of bicycle routes.

The objectives of the Sector Study for Transport in Action Plan, connected to National Environmental Protection Programme (NEPP) of Hungary (not approved, has no legal significance)

- the reduction of the volume of transportation both with transport related and also with other tools,
- the reduction of motorised traffic by preferring the possibilities of non-motorised traffic,
- the preference of public transportation, the occasional restriction of individual transportation,

- the preference of environment friendly transportation modes as opposed to the most polluting modes,
- assisting local co-operation with transportation as opposed to developing long distance relations,
- the preference of traffic with local destination as opposed to through (transit) traffic,
- the structural correction of the transportation network: the creation of multi-centre and multi-level network structure,
- technological developments for long-term and lasting reduction of emissions

4.2.8. Other documents analysed:

See the table in 4.1: Ten-years motorway programs in 1997 (twice), 1999 and 2000.

4.3. Analysis of in-country planning framework:

4.3.1 Consistency of overall objectives

As for the general and overall objectives there is a good consistency between the different strategies. At a general level the aims are a regionally more balanced in the same time more rapid economic development into a market economy, in harmony with the EU expectations and with the social and environmental circumstances and conditions.

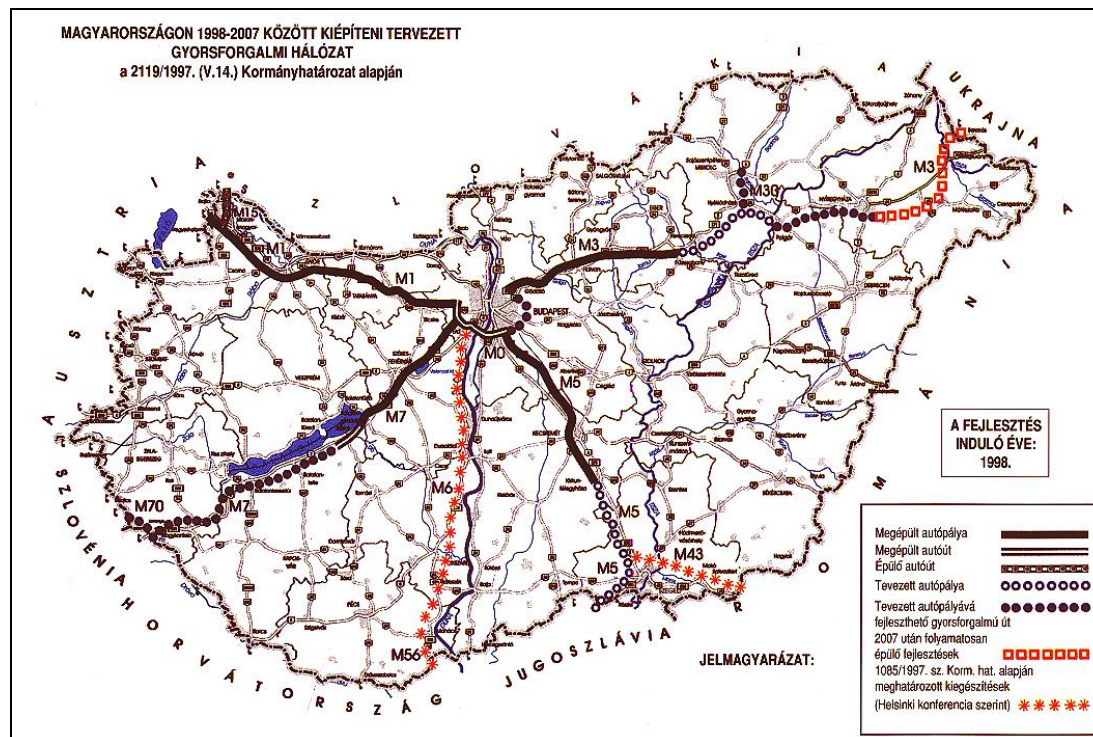
4.3.2. Consistency of proposed activities

At a second level, if we compare the sector-related priorities and the proposed activities, tools to fulfil the overall objectives we can again find that there are not too big differences between the different strategies. As for the proposed transport activities the official documents generally adapt those activities prescribed in transport documents to ensure this way the acceptability at the official inter-sectoral conciliation processes.

The result is that the discrepancy is bigger between the overall objectives and the proposed activities within the documents, that between the different documents. We analyse this discrepancy in the Transport Policy.

The Pan-European corridors and TINA questions are touched mainly by the first two objectives of the Transport policy (Integration to the EU and better connection with neighbouring countries) Typically for the mid 90s that the activities proposed by the program related practically exclusively the TEN prolongation and the east-west corridors.

Following the Transport Policy, the Government Resolution that aimed at the construction of the road freeway network of Hungary in May, 1997 considered the four motorways M1, M3, M5, M7 starting from the Hungarian capital as the future structure of principal importance. Consequently the government program prescribed the enlargement of the existing, started sections. In the next months, in June, 1997 the third Pan-European Transport Conference in Helsinki adopted the conception of 10 Pan-European Transport Corridor, and within that – with active Hungarian support – the V/C Budapest–Mohács–Sarajevo–Ploce corridor that earlier was not included in the priority list of the Hungarian Policy. That is why the brand new government resolution for the 10 years program had to be modified adapting as motorway the Budapest–Bataszek–Mohacs section, a section that was not included in the Transport Policy as motorway at all. *Figure 8* presents both the earlier and the modified program of 1997 for the ten years development.



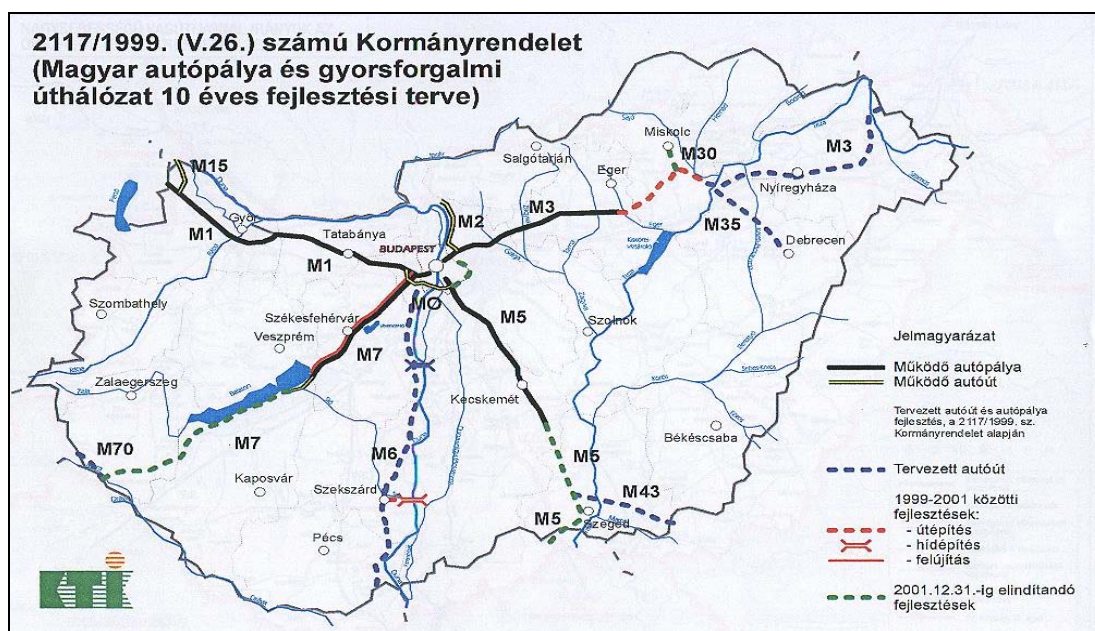
Source: 2119/1997. (V.14) Gov. Res. with modification by 1085/1997 Gov. Resolution

Figure 8. The freeway network proposed for construction for the period 1998-2007

With this newly imported V/C section the Hungarian road network plan dispose with a section that strictly speaking not touches the Warsaw-Budapest corridor, but touches its southern potential prolongation, as a high priority magistral element. This projects forward the fact, that the Transport Ministry want to cross Budapest not only with the V and IV Pan-European corridor, but also with a third axe of north-south, in the future. This kind of structure is totally contradicts to the general objective of cre-

ating a more balanced spatial development, and based on an idea, that the rayon-like transport structure that in a great extent produced the over-centralised spatial structure of Hungary can serve as a tool for solving this structure, if we redouble that kind of structure.

Two years later, in May, 1999 when the government modified again the ten years program, on one hand the quality parameters were lowered, those sections to be built the program prescribes but simple freeways instead of motorways at all sections where the traffic estimations do not promise a huge transport, while on the other hand the structure to be built didn't change and the future network of freeways still consists of but roads starting from the Budapest. (*Figure 9*) To be more precise, there is a smaller, but important change from point of view of our main topic:), namely, a road section of road No 2 between Vac and Budapest, that was built in the 90s in the frame of the ten-years program of the development of by-pass roads on the national road system, now suddenly appeared on the map called as M2, now supporting already from the north too the conception, that M-roads must press the transit traffic through Budapest.



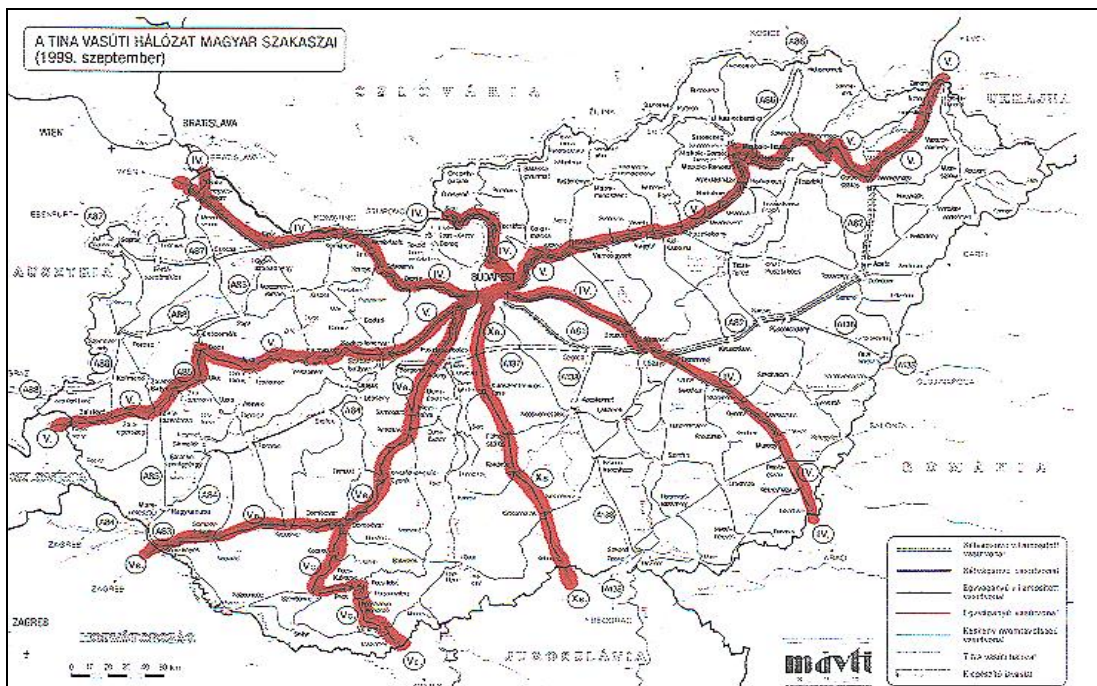
Source: 2117/1999. (V.26) Gov. Res. and Institute for Transport Science [11]

Figure 9. The road freeway network planned for construction in the years 2000-2010

Along with this issue it is worthy to underline one of the main problem of the Hungarian transport policy. We could present above that Slovakia in the recent period was able to significantly modify its earlier transport conception and apply within the country the corridor thinking, creating an open, net structure (with two east-west and four north-south corridors) In the same time Hungary keep on forced the one-

centred inherited structure by all the new conceptions and plans, even if the disadvantageous and harmful consequences of the old structure is described in every spatial, transport survey and analysis of the situation and at a level of general objectives as we could see above. In spite of the overall objectives, the real activities and investments keep on develop further the old centralised structure.

The roots of the centralised structure of the Hungarian transport network goes back to the first part of the 19. century. It was a definite target that Buda and Pest should become a centrum that can be measured in the scale of Vienna. For that reason the built road and rail network was deliberately formed to be capital-centered. The weight of Budapest within the country became even bigger after the first world war, when not only the area of the country decreased about to one-third, but practically all the second-level towns also got without of the borders. After the second world war for 40 years the very centralised, one-centered political power could well use the this physical structure, and practically nothing happened to change it.



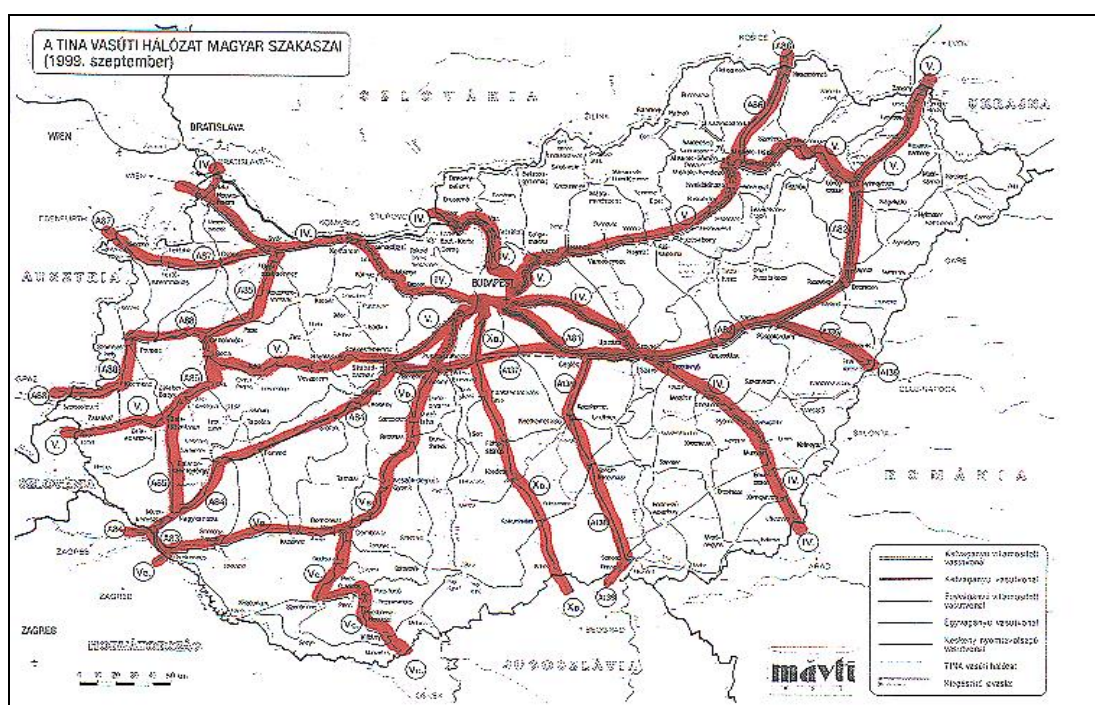
Source: MÁV Tervező Intézet és Közlekedéstudományi Intézet [11]

Figure 10. The magistral network of the Pan-European corridors on the Hungarian railway network (without the additional corridors suggested by the member states)

When we state that there is a connection between the one-centered physical structure of the road and rail network and the establishment of development differences between the capital and the countryside within the country, we also want to underline, that it is not expectable, that the same tool, namely the establishment of

the similar structure of a next-generation technical element, the interregional transport system would be a suitable tool to solve the earlier problems. Opposite to all those who expect a catching up of the countryside from the construction of the planned motorways, it is important to underline, that the creation of new development poles in the country can be expected rather from producing new and many intersections and not from the increase of the central role of Budapest even in physical form.

The structural problems of the transport network characterise also the Hungarian rail network. *Figure 10* presents those axes that appeared in the original proposal of the Pan-European network, (IV and V. and X/B corridors and their side branches adapted on the Pan-European conference). It is well seen that from Hungarian point of view there appear exclusively rayon-like elements, where from any of the seven neighbouring countries there is no other possibility to go to another, but with crossing Budapest.



Source: MÁV Tervező Intézet és Közlekedéstudományi Intézet [11]

Figure 11. The TINA corridors on the Hungarian railway network including the additional corridors suggested by the member states

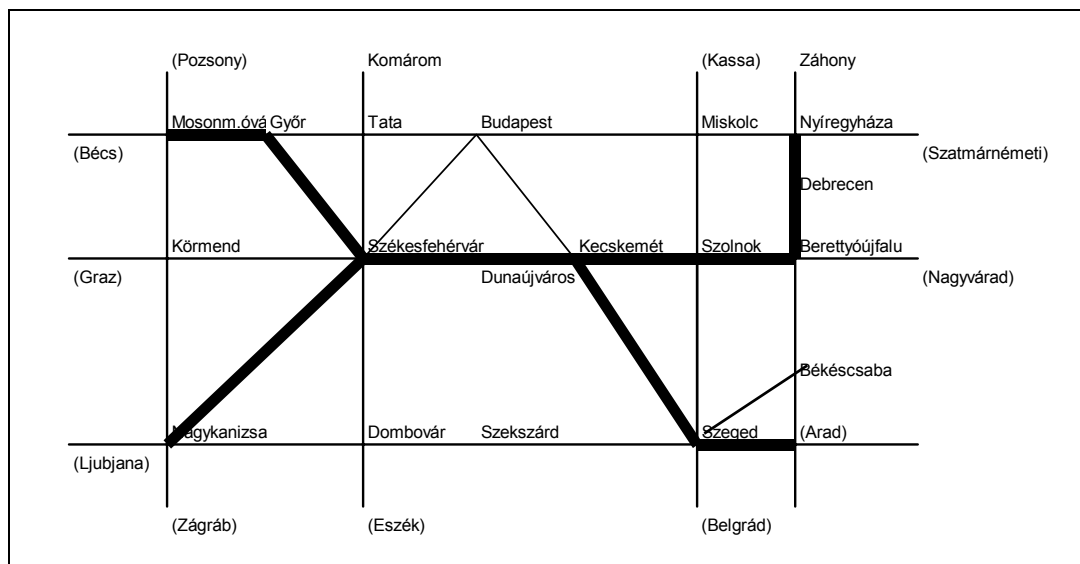
The traffic on the Hungarian rail network decreased almost to its half in the last decade. This traffic seem to be stabilised by now, but even this quantity does not press the rail to initiate development that increase the capacity, and the priority in the targets is the re-habilitation of the existing infrastructure. In spite of that, the additional lines presented on *Figure 11*, that partly mean the involvement of existing lines to the TINA network, aims at a definite conception. This proposal want to as-

sure the possibility of the north-south transit besides the central axe on the western side (Slovak-Sloven/Croatian connection) and, as far as the network makes it possible also on the eastern side (Slovakian-Romanian short-cut) Even more important is the proposal for a new section that want to make possible even at the price of a new Danube bridge the establishment of a second east-west axe on the weight of the country. The figure shows well, that the creation of such an axe would be able in itself change the structure of the Hungarian railway network. The Company doesn't see chance to construct this axe but on long-term.

4.3.3. Consistency of corridor related priorities

The structure of the national magistral networks

Based on the proposal presented, it is worth examining the possibilities of the establishment of a multi-modal interregional network in Hungary, that would offer more advantageous effects than the constant development of the capital centred network.



Source: A magyar gyorsforgalmi úthálózat... After Közlekedéstudományi Szemle 1994 január [12]

Figure 12. A proposal for the scheme of the transit corridors and the freeway network

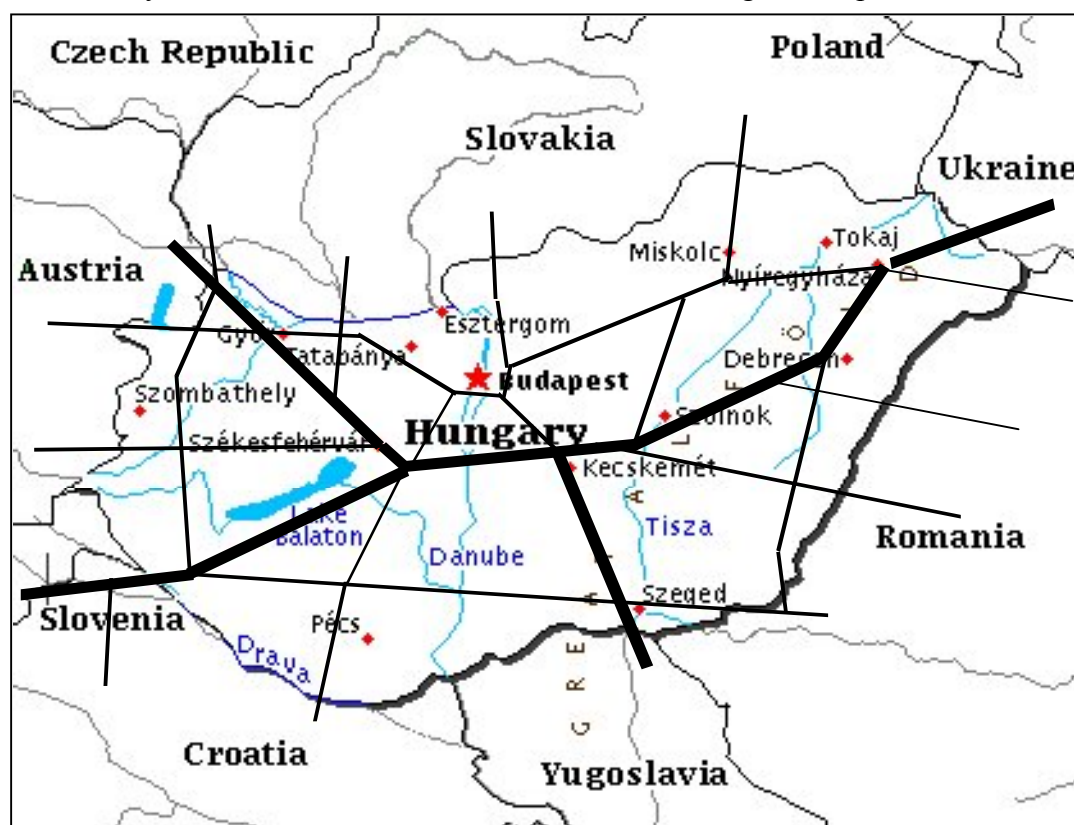
Figure 12. presents such a scheme. The principles of creating a transit network are the followings:

- it should assure connection between the given points of the border
- it should be built at a fairly short distance

- it should avoid the sensitive areas, thus shouldn't intersect the capital's agglomeration, and shouldn't run along the shore of Lake Balaton
- it should fit into an interregional freeway network

The key concept of the frame freeway network is that *in an open bordered country not the radial-circular (still mono-centered) system, but an open frame network system could release the radial network*. Accordingly, the network is made up of three East-West, and four North-South axes, supplemented by diagonal units

Furthermore, the proposal puts the most important backbone line of the network on the middle east-west axis; hence it crosses the Danube to the south from the capital's agglomeration, in the middle of the country, at about Dunaujvaros. Both on the Trans-Danubian, and on the Great Plain side of the Danube, main centres could be established: on the west at Szekesfehervar, and on the east in the area of Kecskemet-Szolnok. As we've seen it previously the railway network on the eastern side is already capable of bringing the traffic to this central axe (Zahony-Szolnok, Bekescsaba-Szolnok, Szeged-Cegled), however, the connection is missing yet, thus there is only connection to the Trans-Danubian side through the capital.



Source: A magyar gyorsforgalmi úthálózat... After Közlekedéstudományi Szemle 1994 január [12]

Figure 13. Scheme of the main tranzit corridors and the road freeway network on a map

The other principle of creating the magistral network is, that the function of already existing different level networks (secondary network, national main network, inter-regional network) is different, and they can only fulfil their function, if the given level is a continual network in itself. So the main network cannot be disintegrated into "side-line" sections when the freeway network is being built, and similarly the continuity of the secondary network and its extra-regional connections have to be kept too. The function of the secondary network is to assure the connection with the inter-settlement networks, yet its continuity enables it to be used as the basic network of the slow vehicles and bicycle roads. The main network connects cities and larger settlements, and for those who want to by-pass the settlement it offers the continuity outside the settlement. The freeway network connects regions, without even touching cities. Mainly the latter is the carrier of the transit traffic.

Figure 13. presents a possible layout of the road freeway network according to the above principles, put on the map still in a schematic way, taking into consideration the possibility of releasing the traffic of the sensitive areas (agglomeration of the capital, Balaton area).

Ideas and plans about the narrower surrounding of the Warsaw-Budapest corridor

In this SEA study the Warsaw-Budapest corridor is treated as an interregional relation, thus the TINA transport corridor is not for connecting the two capitals, but the regions appointed by the two capitals (and the regions in-between). It is also a key factor that the corridor does not end at either capital (or the regions of the capitals), but it continues in both the southern, and the northern directions.

Therefore, following the principles expressed before, the corridor has to be fitted into the given countries' north-south corridor system. As explained above the system of corridors, or even the open network system is only starting to be accepted nowadays, hence the previous plans and ideas were not in accordance. In spite of this we think it to be reasonable to compare the existing plans also to the corridor thinking, since their reality, utility and effects have to be evaluated in that context.

So far we have touched on the subject of the Hungarian transport policy, and the related network program plans, and now we can supplement it with territorial development principles. The National Regional Development document contains the Komarom-Budapest and the Szob-Budapest lines on the railway network, while gives the following roads as part of the planned freeway network in the given area:

- Komarom-Kisber-Szekesfehervar section, (here broken, but giving the chance of continuing at Siofok-Dombovar, or Dunaujvaros-Mohacs);
- Esztergom-Budapest section;
- Parassapuszta-Vac-Budapest section and

–Salgotarjan-Hatvan-Budapest section.

The National Regional Physical Plan, which is still at work [14], [15] basically offers the same connections, adding to it the following: It suggests the construction of a Szar-Rackeve-Cegled railway connection, which apart from its east-west directional priority also enables the connection to the north-south corridors avoiding Budapest, through Komarom-Szar.

In public road proposals the Komarom-Kisber-Szekesfehervar section receives a direct continuation towards Dombóvár, which classifies it to an almost full north-south connection. The plan also includes the possibility of the direct connection of the M0 at Godollo, stopping there, but bearing the potential to be another north-south bypass of Budapest. Otherwise this document contains almost all the units of the east-west, and north-south net system, but only as the remainder of a radial-circular concept, hence without consequent connections. Another problem is that the plan propose three more motorways starting from the capital besides the existing four.

Those programs dealing directly with the area of Budapest (Programs of the Budapest Agglomeration Development Council, [16], [17],) on one hand take over the above proposal of National Regional Physical Plan for the three new motorways, on the other hand it was during the formation of the capital's urban development [18], [19], and transport [20] programs, where the new concept emerged for the motorway M0: namely, that it must serve at an 'U' shaped direction rather than closing a full O. The opened new possibility for a north-south by-passing road was used by now only in [16] where the Vac–Godollo direct connection appeared.

The listed works and the works still under preparation give opportunity to analyse *the Danube-bend area as a sensitive zone*, and similarly as in case of the capital and the lake Balaton to point out the areas that are definitely *not* to be passed by. Such elaboration will give an opportunity to base statements in questions such as where is it possible to develop transport channels in the area between Dorog / Esztergom and Balassagyarmat. At the moment this region is endangered by the increasing traffic potentially caused by fulfilling plans of the Sturovo-Esztergom Danube bridge, the increase of the traffic on road No. 10, the construction of motorway M0 at sections north-east, north and west together with a Danube bridge, an occasional Vac Danube bridge; another possibility of the construction of the above mentioned Vac-Godollo direction, besides the existing roads of 11, 2, 2/A and further North-Budapest development plans.

5. EXISTING IN-COUNTRY ENVIRONMENTAL OBJECTIVES RELATED TO TRANSPORT

5.1. Policy documents analysed

See 4.1

5.2. Description of individual strategies

See 4.2

5.3. Main environmental objectives related to transport

Table 3. Environmental objectives and transport targets in Hungarian documents

Environmental objective (general description)	Indicator	Target in the field of transport	Established by
do not increase, and in case of the majority of air pollutants do decrease the emission of the materials directly harming the human health	tons of emitted air pollutants, ambient air quality indicators	<ul style="list-style-type: none"> – application of more severe, internationally accepted norms for the newly marketed cars – the construction of roads not crossing the inhabited areas – the preference of the rail and the public transport 	<ul style="list-style-type: none"> Transport Policy (of the Hungarian Government) Transport Policy Transport Policy
		– improvement of the co-operation between different modes of goods transport, increase of the combined transport in the import, export and through (transit) relations	Transport Policy
–decreasing the pollution of soil and water	Pollutants and waste in total quantity and specific data, Imission data	<ul style="list-style-type: none"> – to finish selling leaded fuels, – to decrease to a minimum the use of the de-frosting chemicals and materials – to give a priority of purchasing technically up-to-date vehicles – implement the existing rules relating the transport of hazardous goods 	Transport Policy
– noise protection	Share of inhabitants touched, level of noise	– the support of the operation of more silent vehicles	Transport Policy
– reservation of protected natural areas	Diversity indicators,	– a continuous expansion of those transport development, -maintenance and -operation modes that can ensure the reservation of protected natural areas and values	Transport Policy
– maintain the optimal state of the environment and the unique ecosystem	Different statistics for changes in the state of environment	– the effect of transportation corridors, energy transportation systems and transit traffic on the unique ecosystem of the Carpathian basin must be regularly examined and evaluated	National Regional Development Concept

		<ul style="list-style-type: none"> – alteration of the excessively Budapest-centred configuration, by the development of centres capable of growing, – supplementation of the radial-structure technical infrastructure networks with collared or transversal elements, – in agglomerating regions, the establishment of land use policy for the harmony of built and natural environment; 	<p>National Regional Development Concept</p> <p>National Regional Development Concept</p> <p>National Regional Development Concept</p>
– the protection of natural resources and values			National Regional Physical Plan (draft)
– assuring conditions for sustainable land-use regulations		<ul style="list-style-type: none"> – on the long term freeway network the radial roads should be supplemented by three circular elements (M0, middle ring, external ring), – the unit of the network that passes by Budapest from the south, aims at the by-pass of through traffic (transit) coming into the capital's railway network, 	National Regional Physical Plan (draft)
– ensure the conditions of healthy environment, improve and restore environmental conditions necessary for adequate quality of life		– Transport sector program *	National Environmental Protection Program
– preserve the nearly-natural state of living and built environment		Transport sector program *	National Environmental Protection Program
–manage natural resources (water, soil, air) in an economical and protective way and preserve them for future generations		Transport sector program *	National Environmental Protection Program
– realise a harmonious and realistic relationship between economic development and the environment		Transport sector program *	National Environmental Protection Program

* It is a fundamental change in thinking, that NEPP doesn't think that single transport measurements should replay to single environmental objectives, but it is the whole sector policy that has to give the answers.

The whole question of environment and transport is determined by two different possible approach of tasks, targets and necessary activities. While the overall objectives are accepted to be the same, the two approaches cause totally different lists of priority in activities.

The first approach is that want to *increase the supply of transport*. This is the traditional approach of traffic planning, that starting from the problem of congestion, focuses on ensuring more room for the transport (motorised transport flows) and trying to subordinate all other objectives to that target. The other approach, starting from the same problem of congestion, aims at the possibility of *decreasing the demand* for transport.

Table 4 compares the two approaches and presents which activities are favoured by the two different kind of management. The table is based on the *Hungarian Sector Study for Transport in the Action Plan*, connected to the Hungarian National Environmental Protection Programme (NEPP) [22]

Table 4. Activities and groups favoured by the different transport approaches

	DEMAND DECREASING MANAGEMENT	SUPPLY INCREASING MANAGEMENT
(a)	solutions that need less or no transport	solutions that need more transport
(b)	pedestrian and not motorised traffic	motorised traffic
(c)	public transport	individual transport
(d)	environment friendly transport modes	rather environment polluting transport modes
(e)	local traffic	distance traffic
(f)	local destination traffic	through traffic
(g)	multi-centre, multi-level network structure	one-centred structure
(h)	technical solutions that reduce emissions also in long-term	technical solutions that maintain the existing structure

The distinction between the two different approaches of transport planning activities was the basis of working out the environmentally acceptable priorities for a transport policy. These priorities were presented in *page 14* (Sector Study for Transport). While on the meeting there is no real objection in accepting the targets and aimed at a more liveable environment (urban environment) there was a definite difference relating the *next steps to be done*: those representing the Transport Authorities insisted on fixing that *first there is a need to fulfil the existing plans and a*

change in thinking can arrive only at a better traffic situation. The other argument underlined just the impossibility of that expectation as *the traditional transport development permanently ends in failure not only relating the environmental targets, but also concerning the transport targets*, so on that way never comes the time, when the traffic situation is already better.

6. PROPOSED CORRIDOR -RELATED ENVIRONMENTAL OBJECTIVES (REGIONAL AND NATIONAL)

As we presented above the two basic element of the corridor-related environmental objectives were originated from the general environmental objectives related to transport (*see 5.3.*) and from the corridor-related priorities (*see mainly 4.3.3.*)

As for the first, an interesting special point emerged, namely while generally the overall decrease of transport is a target, we have to admit, that in case of the Warsaw–Budapest corridor (and generally in case of the co-operation of transition countries) it is a political and economic target to let the interregional transport increasing between these countries, hoping that an increasing co-operation within the Eastern- and Central European region may substitute the even longer distance co-operation and by that way promote a rational way of co-existence.

The objectives presented in Table 5 below were based mainly on the second starting point, namely on the corridor related priorities.

**Table 5. Corridor related objectives
(projected on the transport policy objectives)**

Transport policy objective (general description from T.P. of Hungary)	Indicator	Corridor related target	Reference to environmental objectives	Priority (assigned by project team, following consultations)
– the improvement of the conditions of co-operation with neighbouring countries	Agreement with neighbours	-it should assure connection between the given points of the border	This is not environmental, but fundamental condition	
		-it should be built at a fairly tolerable distance	Reduction of pollution, emission	
– the protection of human life, nature and built-up environment	Environmental state indicators, and their	-it should avoid the sensitive areas, (thus shouldn't intersect the Budapest agglomeration, the Danube bend resort	Less pollution, less congestion Protection of natural and built envi-	

	changes	area, the National Parks, or run along the shore of Lake Balaton)	ronment, protected areas, human health and wildlife.	
– the promotion of the integration into the European Union	Level of mutual harmonisation with EU proposals	-it should fit into an interregional freeway network	Has no direct environmental relevance	
– the promotion of a more balanced domestic regional development	Spatial indicators and their comparison	-multi-central network: an open frame network system could release the radial network	Protection of built environment, decreasing emission on most polluted centres	Needs revision of existing plans
	Complexity of different levels of networks	-multi-level network necessary: the function of the secondary, the main and the inter-regional network is different, and all they have to cover the whole area	Protection of built environment, decreasing emission on most polluted centres	Needs revision of planning principles

**Table 6. Corridor related objectives
(based on environment-friendly transport policy objectives)**

Transport policy objective (general description based on the sectorial study of NEPP see Table 4 and below)	Indicator	Corridor related target	Reference to environmental objectives	Priority (assigned by project team, following consultations)
– the reduction of the volume of transportation both with transport related and also with other tools	– per-capita transport volumes, – trends of transport volumes relative to other activities	– the choice between corridor alternatives must be based on the minimal contribution of the total traffic of the region as a whole	–reduction of pollution, emissions – decreasing the need for resources	
– the reduction of motorised traffic by preferring the possibilities of non-motorised traffic	– per-capita transport volumes, – share of non-motorised traffic from the total,	– not relevant for the whole of the international corridor, but important argument for bypassing settlements and also in assuring bicycle route alternative	– reduction of pollution, emissions; – protection of built up urban environment – decreasing the need for resources	
– the preference of public trans-	– per-capita transport vol-	– the rail (if available inland water) corridor	– reduction of total emission,	

portation, the occasional restriction of individual transportation	volumes, – share of public transport in total performance	alternative has to have priority in the timing and in implementation – the rail has to preserve its competitiveness in passenger transport connecting directly centres	– less congestion in settlements – decreasing the need for resources	
– the preference of environment friendly transportation modes as opposed to the most polluting modes	– per-capita transport volumes, – share of environment friendly modes in total performance	– the rail (if available inland water) corridor alternative has to have priority in the timing and in implementation – combined transport possibilities has to promote environment friendly corridor usage even for cases of other modes	– reduction of total emission, – less congestion in settlements – protection of natural and built environment, protected areas – decreasing the need for non renewable resources	
– assisting local co-operation with transportation as opposed to developing long distance relations	– per-capita total transport volumes, – share of issues can be arranged locally (in cities within the neighbourhood)	– this objective decreases the urgency of corridor development, – especially internal eastern European corridors can decrease even longer distance European transport needs	– decreasing the total amount of emission – decreasing the need for resources	
– the preference of traffic with local destination as opposed to through (transit) traffic	– volume and share of transit in total transport	– the transit corridors has to link regions, but bypass settlements, even urban centres	– protection of built environment, – decreasing emission in most polluted centres	
– the structural correction of the transportation network: the creation of multi-centre and multi-level network structure	– multilevel: if there exist independent network levels that are able to link the same points – multi centre: if there are no unavoidable crossing-points on the network	– the corridor has to be fitted into large-scale international inter-regional network, – the corridor has to operate with good connection points, but otherwise separately from national and secondary networks	– protection of built environment, – decreasing emission on most polluted centres and in total, – decreasing the need for resources	
– technological developments for long-term and lasting reduction of emissions	– trend of total emission volumes in time	– rail development technologies included those technologies promoting better services, organisation and comfort	– decreasing total emission – promoting to reach all other environmental objectives	

7. FULL SEA

7.1 Alternatives which should be taken into account in a full SEA

Following our principals, the creation of alternatives must be preceded by agreements on targets and objectives.. Supposing that agreement, the alternatives have to be fitted into the schemes of north-south corridors both within Hungary and Slovakia, and naturally the alternatives chosen in one country must harmonise with those chosen in the other country.

In our scoping process we distinguished the following categories of alternatives:

By their origin:

- existing route,
- planned by official (approved) document, (international, national, regional)
- proposal in officially prepared draft, (international, national, regional)
- alternative (NGO-proposal, expert proposal) and
- alternatives raised up in our process of scoping. (in the country, in other country, in the team)

By their understanding of the corridor and multi-modality:

- multi-modal transport channel (rail, and motorway along the same channel,
- multi-modally connected regions, but not necessarily using the same channels (valleys) for more modes,
- modal change in the corridor (combined transport possibility: "longitudinal multi-modality").

By their relation to the regional centres:

- corridors starting and arriving to urban centres
- corridors starting and arriving in the regions but not aiming at the centres but passing them and loading the access to the national network.

By their spatial differences. Naturally at the end all the alternatives appear as spatial alternatives, and only that stage make it possible to compare corridor with local possibilities.

In our preliminary document we supposed the possibility of the following alternative north-south corridors in Hungary: (*Rail corridors with italics*)

Komarom–Szekesfehervar (–Dombovar–Croatian border)

- Komarom–Szekesfehervar–Dunaujvaros(–Szekszard– Croatian border)
- Parassapuszta–Vac–Godollo–M5(–Kecskemet–Szeged) or
Szob–Budapest(–Kelebia)
- Parassapuszta–Vac–Godollo–M7(–Szekesfehervar(–Dombovar–Croatian border)
or *Szob–Budapest(–Sarbogard–Dombovar– Croatian border)*
- Parassapuszta–Vac–Budapest(–M6–Dunaujvaros– Croatian border)
- Somoskouvjalu–Salgotarjan–Hatvan–Godollo–M5 or M7(see above)

There was also our starting point in our preliminary document, that on the Slovak-Hungarian border the section Komarom–Salgotarjan (Somoskouvjalu) has to be taken into consideration, as the further north-south corridors west or east of that area connect already another regions, that is west or east of the Budapest region. During the meeting this starting point had to be changed.

First of all in the case of the railways, taken into account the present situation, the proposal was, that the wideness of the potential corridor taken into consideration may extend from Rajka to Hidasnemeti, covering almost the whole territory of Hungary. In the present time-table structure two Budapest–Warsaw main connection is given: Budapest–Szob–Nove Zamky–Zilina–Cadca–Katowice–Warsaw (this is now the highest rank international EC passenger train in the given relation) and Budapest–Miskolc–Kosice–Krakow(–Warsaw). There would be a good possibility for a Budapest–Komarom–Komarno–Nove Zamky–etc. relation too, but at the moment the Komarno–Nove Zamky single track section is a bottleneck in that relation. The expert of the Hungarian Railways underlined, that theoretically all five existing border station can serve –after suitable development of the relating lines – as transit point of the Warsaw–Budapest railway corridor (Rajka, Komarom, Szob, Somoskouvjalu, and Hidasnemeti).

The special problem of the "highest-ranking" current relation, that at Cadca there is a double Slovak-Czech-Polish border crossing. We try to generalise this point, stating, that the whole inter-regional railway passenger transport has to be revised (with special regard to the Warsaw, Prague, Bratislava, Budapest interconnections). *At this special case (rail passenger transport) the inter-regional means inter-city in its original meaning, that is from city centre to city centre.* As for the Warsaw–Budapest connection, the current running-time is more than 12 hours that is not admissible and the situation is similar in the case of the Warsaw–Bratislava connection. A realistic target is to achieve a 8 hours running time with regular night trains that make rail competitive with even air transport. The development touches not only the technical features (state of rail infrastructure and vehicles) but also the organisation: there is no need to control several times and in the middle of the night personally the passengers, if at the starting point conductor or customs authorities once controlled them and the passports are given to the conductor.

In the case of the road connection the representant of the Road Authority participating in the meeting gave a bigger stress to the Parassapuszta–Vac–Budapest(–M6–Dunaujvaros–Croatian border) corridor, underlining, that this is the line that was involved into the TINA document and this line represents the official Hungarian program too, while any other corridor is unacceptable.

7.2. Conflicting areas and areas of uncertainty (requiring further analysis in a full SEA)

In the preliminary document we categorised the border conditions as *spatial limits*, *competency limits* and *sectoral limits*. Above we have dealt with the spatial limits, as wideness of the potential corridor.

7.2.1. Competency limits

During the SEA we want to take seriously that we are dealing with a strategy-level analysis, that is why we considered officially approved earlier or now valid strategies as same as not yet approved, or only proposed strategies (by planning institutes or planners). We also took into consideration any new ideas emerged during the scoping process. Naturally the scoping document will also not more than a collection of arguments and proposals, that may be taken into consideration in future decision-making process.

7.2.2. Sectoral limits

The SEA relating the transport corridor can not be limited to the direct emission of the transport and to the analysis of environmental consequences relating to that. The establishment of a transport corridor out of direct technical and land-use effects bring also economic, regional development, life-style, social consequences. Altogether the environmental consequences has to cover also indirect environmental effects, that is the environmental effects of the social and economic changes. The SEA have to make estimations to these indirect effects too and the final conclusion must be drawn based on direct and indirect effect together.

7.2.3. Conflicting areas

Summarising the statements on rail corridor, the participants of the meeting accepted the emerged new points and within Hungary there is no bigger problems in objectives and urgent activities. The floor is open for studying all mentioned corridors, and there is a willingness to co-operate with the Slovakian partners on the same topics.

As for the road corridor there was a sharp split between the participant. The majority of the participants agreed upon the main arguments written in the preliminary

document and accepted them as a starting point of the further SEA analysis. Naturally there was no objection on also taking into consideration the official TINA corridor version that crosses the capital. Opposite to that opinion, the representant of the Road Authorities, as mentioned before, not only insisted on accepting the official version but could not accept any analysis of other alternatives, practically questioning the sense of the whole process. In a written (e-mailed) contribution this opinion proposes the assessment of the Parassapuszta–Vac–Budapest variant that is supported by the authority and does not propose even the assessment of the other alternatives. The whole idea of bypassing the capital was unacceptable for the authority and the conflicting objectives of *solving the radial structure* and *continuing the existing radial network* can be handle by this opinion so, that *first* there is a need for the international corridors with the prolongement of the existing network, and *only after* comes the other priority of substituting the radial structure.

The team considered this opinion as not only a refusal of the alternatives emerged, but also as an attempt to refuse the whole process of environmental assessment and inter-sectoral co-operation.

7.3. Possible full SEA procedure

Here we repeat the text written into the preliminary document.

7.3.1. Direct steps: negotiating present proposals

Direct steps follows as elaboration and harmonisation of one-country proposals by May and further corrections after the June conference.

7.3.2. Proposal for further steps of SEA:

- (5) establishing an environmental database
- (6) environmental assessment
- (7) summarising and evaluating of impacts
- (8) proposals taken
- (9) monitoring of processes and feed-backs

Parallel to this preliminar scoping process there is a methodical work in Hungary dealing with the structure and topic of SEA in case of transport projects, especially in case of transport corridors. The preliminary results of the project was given to us to assure a common elaboration on future steps. This document propose the following steps for the SEA:

(1). Set of values

(While in this preliminary scoping process we have dealt excessively with the objectives, there is a debate on the level of the project leadership if we are allowed to propose values to prefer or not.)

(2) *Evaluating the objectives of the policies (planning)*

(This is the part of scoping we more or less followed in our case)

(3) Analysis of alternatives, start of real assesment

(a) General comparing evaluation of alternatives, exclusion of basically unacceptable alternatives

(b) Determination of effecting forces (in our case traffic, economic, social consequences of the existence of the corridor and further indirect environmental consequences)

© Establishing an environmental database (relating the area touched, sensitivity maps etc.)

(d) Mapping environmental impact chains (not the impact but their structure)

(e) Evaluation of supposed changes

(f) Choice of alternatives proposed for further assesment

(4) Evaluation of final alternatives, managing of maintained conflicts

(5) Elaboration of SEA documentation

8. ANNEXES (PROPOSED, BUT GENERALLY NOT INCLUDED WITH THIS DRAFT VERSION)

Maps of the TINA corridor and the area touched

The preliminary document sent to meeting participants (in Hungarian)

Written reactions and contributions of participants (in Hungarian)

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**SEA OF MULTIMODAL TRANSPORT CORRIDOR WARSAW-BUDAPEST
FINAL DRAFT OF IN-COUNTRY SCOPING REPORT, HUNGARY**

Tamás Fleischer

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