The Western Gates West-Pannonian transport networks: conceptions, programs and possibilities

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Abstract

The Hungarian infrastructure development arrived to a crossroad. Earlier the networks were built after different internal demands (although mostly lagging well behind them) while now there is a significant pressure on the country to develop the lines creating part of the European networks even setting a pace beyond its strength.

The basic principle of the (1992) Common Transport Policy of the European Union was: single network to the single market. The Community generally didn't deal with those transport issues of the internal relations of countries or regions. The plans of the Trans-European Networks (TENs) aimed at the interconnection of the existing, operating and supposedly properly developed intra-regional transport systems. It is important to underline, that in Central and Eastern Europe it is not enough to focus on the connection to the big European network, but parallely also has to be assured that the internal networks be able to serve properly the intra regional and in-country needs. The inter-regional networks may not substitute this internal links, what is more, the existence and the good operation of the supposed internal level is a condition of the useful and effective operation of the overlay networks.

The paper survey how the transport axes proposed in the frame of the TINA networks appears on the road- and rail net- work of Hungary, and especially on that of the West Hungarian region. A structural and a priority problem had to be under- lined.

The structure of the Hungarian transport networks evolved in the last century, when there was a national aim of special importance to strengthen the position of Budapest within the Austro-Hungarian Monarchy. The action was successful, and created a unicentred structure where the role of Budapest increased considerably. During the past decades all transport policy or regional development analyses and programs underlined, that it was an aim of great importance to change the overcentralised transport structure and to promote a more balanced territorial structure. In spite of that, the actual proposals continually support developments that not at all decrease, but definitely increase the Budapest-centeredness of the country. This paper considers as of first priority, improving the territorial structure of the country by the construction of east-west and north-south corridors, from which only one of each cross the area of the region of the capital, the others lead elsewhere. Four of these necessary axes cross the Westpannon region.

The other mistake of the existing Hungarian conceptions, that they - misinterpreting the aims of the CTP -deal almost exclusively with the development of the big through traffic axes while the development - even the maintenance - of the main and secondary roads that serve the domestic traffic are falling into the background.

Finally the paper compares the Westpannon, and the other Euroregional co-operations at the Hungarian borders, and constates, that while in the eastern countryside the euroregions also involve the internal counties (that are not directly dispose with the country border). Following a similar system the Westpannon euroregion could be extended towards Veszprém county, and this extension could be supported both taking into consideration the once attraction of Vienna in the area and the traditional county distribution. This extension could also create a chance for the advantages of the co-operation to filtering towards the internal part of the country.

1 Transport principles in the European Union

The basic principle of the common transport policy of the European Union: single network to the single market. The Common Transport Policy based on seven pillars.

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1. *an internal market* which works efficiently and facilitates the free movement of goods and people;
2. *a coherent, integrated transport system* using the most appropriate technologies;
3. *a Trans-European transport network* which interconnects national networks, makes them interoperable and links the peripheral regions of the Union with the centre;
4. *respect for the environment* embodied in transport systems which help resolve major environmental problems;
5. promotion of the highest possible *safety standards*;
6. *social policiesn* to protect and promote the interests of those working in and using transport;
7. *developing relations with third countries*.

So the majority of the pillars deal with the market, the environment, the safety and the society, and only three from the seven aim directly at forming connections: namely the creation of uniform system of connections, interconnection of existing networks and and the connection with remote areas. **With transport functions such as internal relations of single regions or countries, - based on the subsidiarity principle -, generally they don't deal on a Community level**.

2 Trans-European networks (TEN)

The concept of trans-European networks comprises the development program of the common European network of tree big groups of infrastructures: transport, energy and telecommunications. The conception was first time negotiated in 1989 on the Strassbourg EC summit and later as a separate (XIIth) Chapter it become part of the Treaty of the European Union, signed in December, 1991 in Maastricht. Since that, the question of the trans-European networks is continually on the agenda and among others it gives one of the main pillars of the transport policy of the Community[1].

The European Union fixed again the objectives of the Community guidelines for the development of the trans-European transport network in 1996[2]. The objectives of the trans-European transport network:

- ensure mobility of persons and goods;
- offer users high quality infrastructures;
- combine all modes of transport;
- allow the optimal use of existing capacities;
- be interoperable in all its components;
- cover the whole territory of the community;
- allow for its extension to the EFTA Member States, countries of Central and Eastern Europe and the Mediterranean countries.

The trans-European transport network comprises infrastructures (roads, railways, watwrways, ports, airports, navigation aids, intermodal freight terminals and product pipelines), together with the services necessary for the operation of these infrastructures. All components consists partly of existing, aggreed elements, and partly it is necessary to built also new developments, generally offering services of high level, that are appropiate for fulfilling the objectives and create the interconnection of the net- work.

Describing all of the components of an integrated trans-European transport infrastructure, the Comission sent to the Council of Ministers and the European Parliament in April 1994 his proposed guidelines for all transport modes.

A road network system totaling 56 000 kilometres of motorways and high quality roads equipped with traffic management systems and giving access to all European regions.

A rail network of around 70 000 kilometres, parts of which would comprise the High Speed Rail Network and corridors devoted to combined transport and giving access to regions and ports.

A combined transport network based on specific rail, road, inland waterway and maritime shipping corridors, together with trans-shipment facilities for switching freight from one transport mode to another.

An inland waterway network of 12 000 navigable kilometres.

A trans-European airports network of 267 designated airports.

Efficient and competitive sea ports by means of projects emphasising improved access and infrastructures.

A European maritime traffic management system.

An air management network which would intgrate existing surveillance and communication systems, together with air traffic control centres.

A modern information and management system, to achive as smooth a flow of traffic as possible throughout the transport network.

It is neceessary to underline, that **the plans enumerated suppose that all these overlaying networks interconnect transport systems that are existing and operating within the regions**.

In Central and Eastern Europe it is not enough to consider the interconnection with the big European networks as our task for the future, but paralelly with that it also have to be assured, that the internal networks be able to create operating systems, able to provide the necessary relations within the regions and countries. qtextitThe interregional elements of the network may not substitute this internal links, what is more, the existence and the good operation of the supposed internal level is a condition also of the effective operation of the overlay networks.

Concerning to the transport policy of the EU always a big attention has been paid the financial demand, that belongs to the projects and that can reach the 400 bn euro until 2010 by the estimations. It is worthy to underline in the same time, that this amount has to be paid decisively by the countries directly concerned by the project. In 1995 the Community (Council Regulation (EC) No. 2236/95 [3]) regulated on the one hand the criteria the projects must fulfill to be acceptable at all for co- financement, regulating on the other hand, that co-financing of studies related to trans-European net- works, as preparatory, feasibility and evaluation studies may in general not exceed 50% of the total cost, and the total amount of Community aid may not exceed 10% of the total investment cost.

The Europe Council on its summit in Essen in 1994 gave priority to alltogether fourteen projects that are part of the trans-European network. Az Európa Tanács 1994 decemberében Essenben tartott ülésén prioritást adott összesen tizennégy, a Transzeurópai Közlekedési Hálózat részét képező kiemelt projektnek. By the documentum the main target was the substitution of the road transport, 80% of the capital expenses were directed toward railway constructions and further 9% to the creation of links between the rail and the road. The total cost of the 14 projects (at a 1997 price) was 111 bn euro. The projects were planned to finish by 2005. A characteristic feature of the concept, that in the core area of the EU, mainly connecting to the French network nearly 5000 km of new high speed rail infrastructure will be built, while in a bigger distance from here there was another focus on reconstructing the exist- ing networks to motorways and to traditional but up-to-date (able to fulfil about 200km/hours) railways in the peripherial area (GR, PR, IRL, S-FIN)[4].

3 Pan-European transport network

The European Union urges the extension of the TEN-transport network to the area of the candi- date countries, and even beyond them to the east, underlying, how big is the importance of the fact that the candidate countries dispose with an effective network, connected to the West-European network. In the frame of the TINA (Transport Infrastructure Needs Assessment[5]) program the determination of the most important priorities and the projects of mutual interest has been started.

One of the aims of the program is to gradually extent the legal force of the guidelines relating to the Union's own trans-European network, to all new cadidate countries in the future years. The concept of a pan-European partnership relation gives the core of the initiative, by which the candidate coun- tries, the EU, the different international financial institutions, private investors, employers and trade- unions all has important role in the formation of the new transport connections.

The Phare program of the EU set aside yearly 200 million for transport projects, within that ten intermodal transport corridor of high priority. By the estimations the reconstruction of the transport infrastructure of the given ten corridors according to the western standards will need at least 50 billion euro. Attention will be paid to the

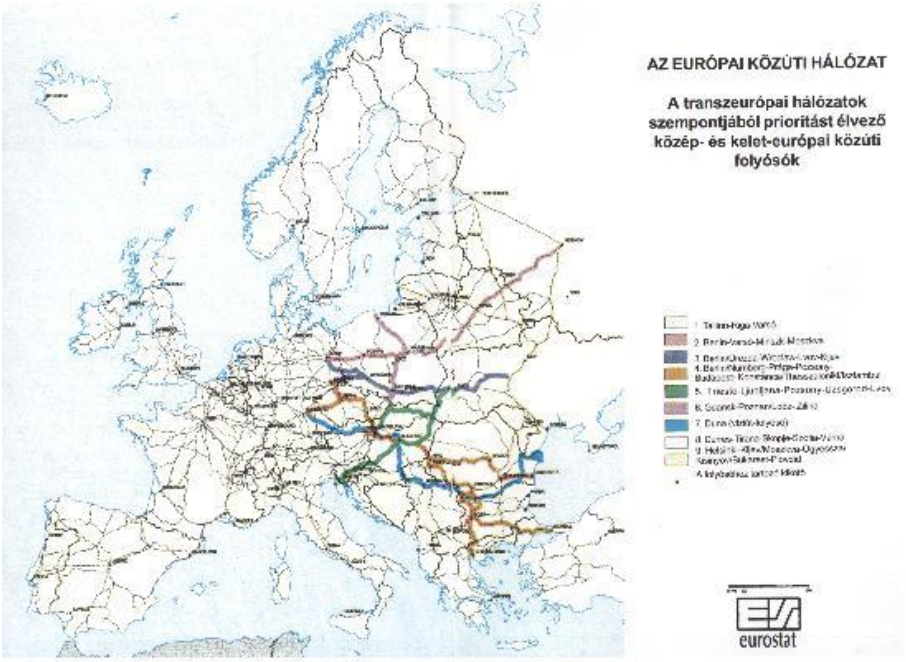

Figure 1: Central- and Eastern European road corridors that are given priority as the extension of the trans-European network. A characteristic feature of the plan is, that it emphasizes first of all the rayon-like relations starting from the EU. Source: Az Európai Unió közlekedési rendszere. Európa Füzetek, ITD Hungary 1995 [1].

fact, that candidate countries introduce the standards of the Union as soon as possible, as this is the precondition for fulfilling the planned transport network developments in the next 15 years[6].

The yearly 200 million euros set aside by the Phare program gives as a total 3 billion euros in 15 years. Even if this sum will be spent exclusively to the ten corridors, it wouldn't exceed the six percent of the expected costs. With or without that help means the same: the 50 billion is equal to *one percent of the total expected GDP of the candidate countries in the future 15 years*. This means the one percent of the GDP should be spent continually to this single investment project for one and a half decade. The present 15 member states of the EU spent 67 billion euro *as total* to transport investments in 1994, and this sum didn't exceed 1.1 % of the 15 countries in the given year. The same sum would exceed one quarter of the total 1995 year GDP of the 10 candidate countries!

The basis of the TINA network is the extension of the TEN axes. Besides the member coun- tries themselves may suggest further axes, that get into the plans as secondary priorities.

The European Union urges, that the candidate countries introduce the elements that came into existence in the EU legislation, already before their integration to the EU. There emerged measures now-a-days, like the unification of the weight and size of the trade vehicles, the conditions of getting a professional driving licence, or the environmental restrictions relating the emissions of vehicles. In the same time, as an adapting country, we also have to think over, whether the quick introduction of the indisputably up-to-date prescriptions which kind of social, employment, financial, competitivity etc. effects can cause.

The permanent maintenance in Hungary of the 30 000 km national road network would need yearly 27 billion HUF at a 1998 price level. Even relative to this ideal sum, several times more money, 88 billion HUF non-recurrent expenditure would be needed by the estimations because of the rising of the now 10 tonnes maximal allowed axe load to 11,5 tonnes as accepted in the EU and the rising of the 40 tonnes maximal vehicle gros load to 44 tonnes. (88 billion HUF is equal to the 1 % of the 1997 year Hungarian GDP!) The calculation doesn't contain the effect of the measurement to the further 105 000 km municipal road network, and the consequences of the further fact, that at the moment the Hungarian vehicle stock doesn't able to exploit the advatage coming from the higher loadability, and the forwarders' savings coming from the given measurements almost exclusively bring into better position the concurrency[7].

4 Historical development of the the Hungarian networks

Overstepping for a while on the problems relating the financement we may suppose, that all these questions will be solved. What kind of networks would be built then in Hungary?

The structure of the Hungarian transport network was developed since the second part of the last century, with the construction of roads of national significance, and of the railways. In the early peri- ode, after the supression of the war of independence Vienna put a great emphasis on connecting the whole empire directly to the imperial capital. As it can be seen on 4. until 1967 three rail line was built from Vienna towards Hungary: the first on the left side of the Danube through Bratislava to Pest and further on through the Great Plain; a second one on the right side of the Danube to Győr and Székesfehérvár; and a third line through Sopron and Szombathely to Nagykanizsa. The end points of these latter was connected by the Déli Vasút (Southern Rail) company from Buda to Székesfehérvár and Nagykanizsa. Later this closing role of this line remained, and because **there was no bridge built to the south of Budapest until Novi-Sad**, the central role of Budapest kept on strengthening. It is worthy to underline, that cocurring to Vienna, Budapest was able to dominate in a 270 degreee sector from the rayon Budapest-Zilina to Budapest-Dombóvár and **the direct attractivity of Vienna could dominate practically only in the single quarter above to the northern side of the Balaton (not counting now the Slovakian areas this meant Veszprém county besides of the present West Hungarian Region**.

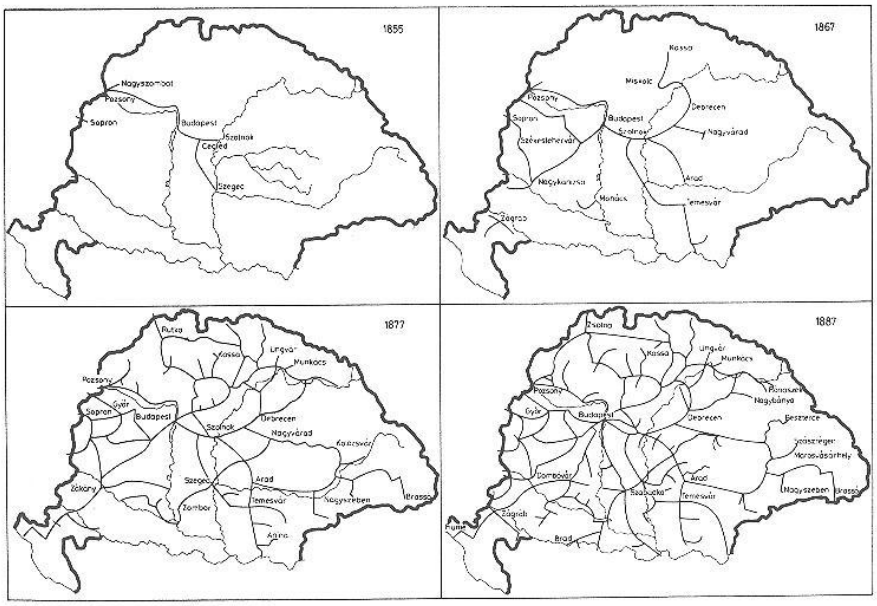

Figure 2: The building of the rail network 1855-1887. Source: Frisnyák Sándor: Magyarország történeti földrajza. Tankönyvkiadó, Budapest, 1992. [8]

The main carridge-ways were similarly built focused to Budapest, establishing the predominance of the capital within the country. This weight further increased that after the first world war two-third part of the territory of the earlier country has got to the neighboring countries, including the whole cathegory of the second urban centres after Budapest. After the second world war the situation, that the whole country was very well governable from its centre - what is more, dependent from it - was explicitly useful for the one-centered political power, and there was no intention to basically change the Budapest centered structure.

As a consequence, already since the late seventies there has not been prepared transport-policy or regional development analysis or concept in Hungary, that wouldn't point out, that the fundamental problem of the country was the overcentralised transport and regional structure. The same documents placed big emphasis among the objectives the solution of this problem, aiming at the formation of a more balanced spatial structure. Nevertheless, in the course of the concret suggestions and proposals again and again emerging new elements, that offer even bigger centralisation to the capital.

The motorway constructions started in the late sixties in Hungary, when the motorisation got un- der way and

the capacity of several roads of most loaded, namely the suburbian section of main roads near Budapest started to be exhausted. The first motorway sections (all of them until now) were built parallely to these main road sections, helping them in their function. Up to now there are four of them, namely the M7, the M1, the M3 and the M5 motorways (see also 4)

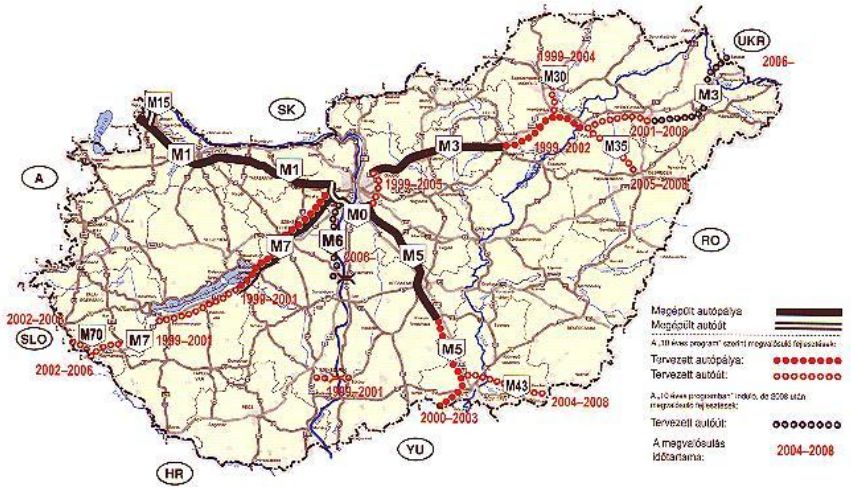

Figure 3: The ten years program of the Hungarian motorway network development, aiming at the realisation of the Helsinki corridors (1999) Source: Közutak Európában. 4. Természetvédelem. KHVM Közúti Főosztály, Budapest, 1999. [9]

While since the seventies originating from the spatial development concept, in the road network development programs, too, we can meet such objectives as 2easing the extremely rayon-like main road system, with ringed elements" the planned motorway network was not more, then the continuation of the four above-mentioned directions from the capital, until the borders.

As the planners of the pan-European corridors couldn't choose but from the existing roads and existing development concepts of the single countries, almost automatically, the two most important international corridors the No. IV and the No. V. crossing Hungary were also passed through the country along the planned motorways. By that the border crossings of the routes were fixed, but involuntarily the routes themselves were also fixed: why should anyone change the earlier planned road directions, when the European organisations just underlined the importance of the given directions!

5 The networks of the inter-regional traffic

Yet, the big corridors destined for filling a different role, than those road networks formed in the last century. So it is time at least to think over, what kind of spatial structure would fit for the new role of the corridors.

The basis of the Hungarian road network - as same as in other countries - was the earlier cart road network. These cart tracks led to the lands of the villages, and a few of them also interconnected the neighbouring villages. Consequently, the road followed the borders of the estates, the topology and the depended also on the soil conditions. This network became the basis of the secondary road network. The main roads (and this is true for the railways too) were already built following a higher decision, a plan, and there were possibilities during the construction to cross earlier estates, to detach from the surface with embankments, and by that following a more direct delineation. These roads interconnected targets of bigger importance, towns, and it was not any more important to cross all the settlements. As a consequence, **the main roads formed a totally new spatial structure, differently from the secondary roads, outlining the structure of the urban network**. It is already a newer development, that now-a-day already even a main road can not cross the internal part of the urban centres, and has to by-pass the built-up area but this change does not change the basic role and structure of the main road network.

At the time of the construction of the early motorways it was not yet clear, that the motorway not only increase the capacity of the road and make possible to reach a higher speed at a relative safe way, but also create a new type of traffic: namely it make possible the regular use of the car at such a big distances, that was earlier unthinkable.

The motorway took over significant goods and passenger transport not simply from the rail, but definitely from the long distance rail traffic domain. This kind of traffic exists now, independently from its rationality, and the international corridors are the carriers of just that type of transport.

It is not the towns any more, but the *regions* that are interconnected by that traffic. As earlier the main roads formed a new network structure for their new mission, as same as the **there is a need to form the adequate scale spatial structure now for the infrastructure of the inter-regional traffic**.

Here we have to turn back to the thought underlined in connection with the trans-European networks. The Union's programs dealing with the TEN suppose, that the overlay networks interconnect existing and operating internal systems of the single regions. Consequently, the newly formed networks doesn't serve as the *substitution* of missing main or secondary connections, on the contrary, it cause definitely a trouble in the operation of the interregional infrastructure, if its function is mixed with different, local roles. But more than that. The lack of the proper local network is not only a source of a trouble, but also for the crossed country (region) the whole influence of the interregional infrastructure may become disadvantageous: namely **the advantages of the overlay infrastructures may only become available for a country, if the given country has a properly adaptive local economy, industry, services, relations** - and the spatial imprint of these culture of relations are just the local transport networks.

The infrastructure of the interregional traffic is necessary, but the formation of that level is not enough. Parallely with that it is also necessary to maintain and develop operability of the local (main- and secondary) networks. Now-a-days in Hungary a different process takes place. In a system to be constructed, where the corridors that serve the inter-regional traffic we want to press through the area of the capital's conurbation, in order to solve the capacity problems of the suburban roads, we cause damage in the same time to both the corridor and the region.

The fact that is still promising, that even if not at the level of the motorways, but at least for the transport corridor system as a whole, slowly, at the level of notions, there set out to be formed a network, that can be a base of the desirable future structure. More or less there is an agreement by now, that this net may not be a rayon-and-ring type (keep on one-centred) system, but rather **an open net, based on east-west and north-south corridors**.

At a more specified level that means three east-west corridors in Hungary, and four north-south ones, the localisation of the latter is not agreed yet. The question of the Helsinki corridors appear in this system such a way, that - keeping the localisation of the internationally fixed border crossing points -, whether the corridor within the country keep on based on the east-west axe crossing the capital, or rather on the axe "No. 8" leading in the middle of the country. Below we vote for the stressing of the middle axe, and present the schemes this solution.

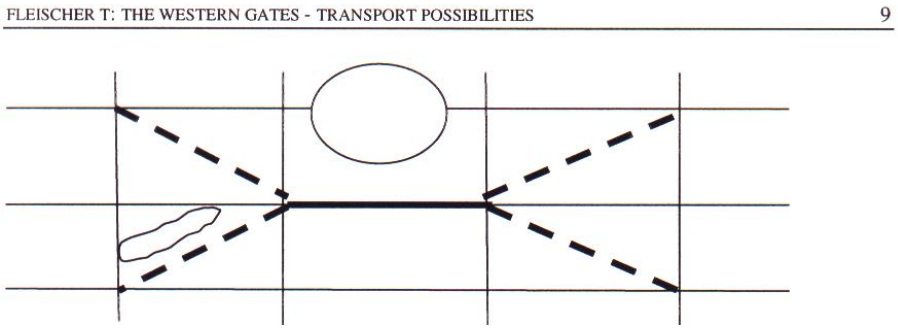

Figure 4: Proposal for a scheme of the transport corridors, including the main Helsinki corridors Based on: A magyar gyorsforgalmi úthálózat ... Közlekedéstudományi Szemle 1994 január[10]

The importance of the proposed structure is given by the fact, that by that both in the western and in the eastern side may be formed - in the area of Székesfehérvár, and Szolnok respectively a logistic center that on the one hand to an extent able to relieve the loan from the capital and on the other hand able to become an organisating centre of inter-regional connections of the given country-side.

Many element of the outlined general transport scheme is also realizable on the railway network, or even already exist. 5 presents the Hungarian railway lines belonging to the TINA network. Within that, the lines setting out from the capital form the extension of the TEN, that is the corridors that got priority from the part of the EU, while the added Hungarian proposals are the other lines signaled with letter 'A'. Among the later it have to

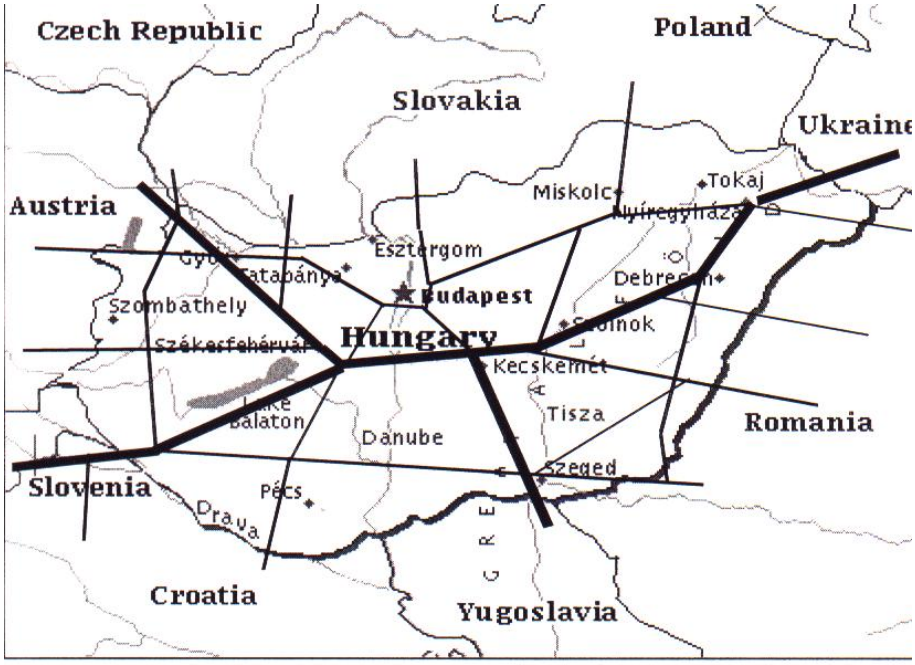

Figure 5: Proposal for a scheme of the transport corridors, including the Helsinki corridor motorways projected on the map of Hungary Based on: A magyar gyorsforgalmi úthálózat ... Közlekedéstudományi Szemle 1994 január [10]

stress anyhow the proposal for the Boba-Székesfehérvár-Pusztaszabolcs-Szolnok-Püspökladány west-east axe, that exactly corresponds to the corridor No. 8 discussed above.

6 Consequences in the West-Pannon region

6.1 Backbone connections

The western Hungarian axes of the above discussed national scheme is more or less given: both the east-west and the north-south corridors are partly existing and partly included in development projects. 6.1. presents the wholly schematic corridor structure itself. Naturally this “clear” model will a little bit differently be presented on the road and the rail network, due to the existing relations.

A definite aim of the presentation of the modell was, as far as possible, an elimination of the use of the “external ring” and of other motorway interconnections of uncertain hierarchy that are frequently appearing in recent concepts. The positive target is to assure the transit of the most important through traffic directions and of the inter-regional relations at a relatively few overlay traffic corridors in a well arranged, clear system.

Roads

On the road network, (6.1) the correspondance between the middle east-west axe and the future M8 clearway is self-evident. Within the region, in the lack of detailed plans at the moment we stressed the lineation of the existing road No 8. (Graz-Szentgotthárd-Körmend-Vasvár-Veszprém) and from here further on to the direction of Székesfehérvár-Dunaújváros-Szolnok.

On the northern area the M1 motorway forms the section of the east-west corridor, that cross the West-Pannon region. Here already it needed a decision between the Győr-Sopron section of the road 85 also performing an important task of a main road and the Győr-Mosonmagyaróvár section of the M1. As we presented on the figure, instead of following the challenging gemetric arrangement within Hungary, we proposed rather the internationally accepted and already built E60 (M1) direction to follow.

The situation of the southern road axe is special. On the one hand, because here we could rely on No. 9 axe concept (Nagykanizsa-Kaposvár-Szekszárd-Szeged), the realisation of which is expetable at an even longer term than that of the No. 8 axe. On the other hand both in the case of the existing No. 7 main road and in the future plans at the west of Nagykanizsa a short section is common part of the north-south and of the east-west axes, and

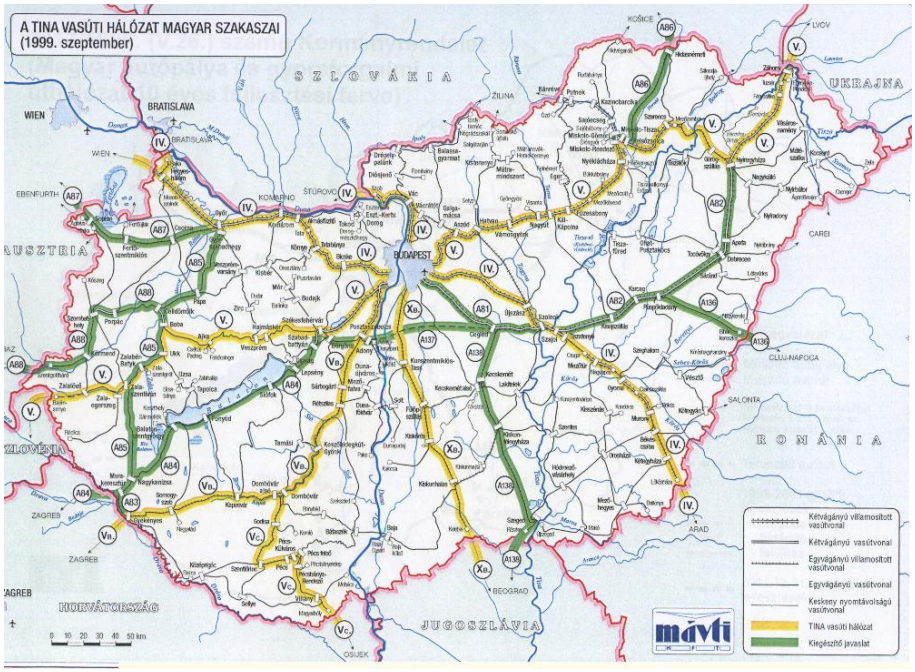

Figure 6: The Hungarian sections of the TINA railway network Source: A magyar közlekedéspolitika felülvizsgálata... Közlekedéstudományi Intézet 1999. [11]

only beyond the border, in Croatia the direction to Zagreb and to Ljubjana are separated. Naturally there is also a possibility from the Hungarian side to get directly to the Slovenian border, the scheme show that with a main road level connection, via Lenti.

With the decision, that we signaled Bratislava and Zagreb earlier as determining points of the noth-south corridor, practically also was decided, that within the country not the (*Vienna*-)Sopron-Sárvár etc., but rather the (*Bratislava*-)Mosonmagyaróvár-Sárvár-Vasvár-Nagykanizsa(-*Zagreb*)

No. 86 line was considered to be the main north-south axe in the area.

Beyond the above mentioned axes we have to stress the importance of two of the othervise uniformly indicated further main roads, in harmony with the schemes presented for the whole of the country. These form two diagonal directions, one of them the section *Győr-Kisbér* that further on through the area of Székesfehérvár makes possible the reaching both of Dunaújváros and across the future bridge the eastern side of the country, and of the Southern Transdanubian region. The other diagonal direction is the line of the M7, but this later can only operate as a TINA network element in the case, if its function wouldn't be mixed with the role of the main road along the Balaton. Just where the recent plans conceive from Zamárdi the prolongation of the motorway, instead, there has to construct the main road, that would be able to take over the function of the main road that now goes along the resort area. The future TINA corridor that gives connection among others between Italy, Slovenia, Croatia on one side and Ukraine, Romania on the other side through Hungarian territory must be constructed outside of the resort area of the Balaton region, *by no means closer to the coast as the Marcali-Tab line*.

In the formation of the road trough traffic corridors, it has to be considered as a principle, that these corridors have to operate in the future as overlay infrastructure "over" the main roads of full value, that otherwise fully able to fulfill the inter-urban connection functions.

Railways

The region's rail connections (6.1) have a specific structure, since instead of having a distinct centre, the network is *organised around the Szombathely, Celldömölk, Ukk, Zalalövő square*. The axes running in from further distance connect to the medians of the square (*Porpác, Boba, Zalaszentistván, Körmend*) and it is only a question of tradition and decision which route is considered to be as a high priority corridor. In 6.1 the main lines of the MÁV are considered as standard and the axes are stressed accordingly, denoting that the southern ("No.9") corridor (Kaposvár-Somogyszob-Gyékényes) runs and reaches the border outside the region. However, due to the newly built Hungarian-Slovenian section, the railway leading to Ljubjana touches the region - as it is shown on the scheme - connecting to the central axis just as much as to the southern one.

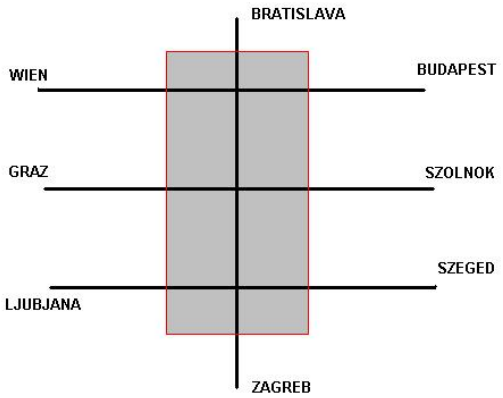

Figure 7: The general scheme of the overlay infrastructure network relative to the West-Pannon region

A second north-south connection, which is going to give a special role (international, but not TINA level axis) to a part of the region's rail network, is not on the scheme. This second axis parallel to the Bratislava-Zagreb direction, is for solving the Vienna-Graz, Vienna-Ljubjana connection bypassing the Alps through Hungary, by the developing of secondary rail lines on the left side of the scheme into main lines.

This starting co-operation is a good example of the euro-region level transport possibilities. While the development of this same relation in the Austrian region would involve the crossing of the Alps' topological obstacles, in Hungary it could be done much more quickly, simply and cheaply. The advantages appear on the Austrian side, even if the new line will be built mainly from Austrian money. From Hungary's point of view it is also advantageous even if the running will be in Austrian-Hungarian shared ownership, since the rail through traffic is the least troubling form of transit, the line also betters the Hungarian connections, as well as promotes the international integration of Hungarian regions. *This initiation is also a good example of how the role of the borders within the Euro-region is getting smaller, and crossing two borders is not a fright anymore, indeed just by ignoring the borders the best topological formation can be reached.* (Unfortunately, along the new borders of Central-Europe opposite processes are going on nowadays: at the Hungarian-Croatian-Slovenian and at the Slovakian-Czech-Polish borders the new line construction serves just the omission of the double border crossing.) Otherwise it would be worth to take into consideration the conclusions drawn from the Westpannon region, also in connection with the Danube-Ipoly and Ipoly/Neogradiensis Euro-regions. There the mountains and the Danube-curve on the Hungarian side form an obstacle that is why hard to cross the area in an east-west direction, north from the capital. This obstacle could be bypassed on the Slovakian side, improveing the connections between the (Ózd) Salgótarján region to the Komárom (Győr) region to avoid crossing the capital and its area.

6.2 Regional main- and secondary networks

The last example of the international peage connections links us already to the local main and secondary connections.

First of all, it is important to mention that in the 21st century it is expected that the main road networks connecting urban centres do not cross the inner area of the settlements. This doesn't cause the main roads to become part of the motorway network, and doesn't mean that considerable through traffic can be directed on them.

In the Westpannon region this question is highly important in the case of Sopron, and of the future role of the roads leading there. The most recent network developing concepts (e.g. [12], [13], [14], [15], [16]) are trying to increase the through traffic, and the logistic role of Sopron with the M85, M9 motorways, based on the existing

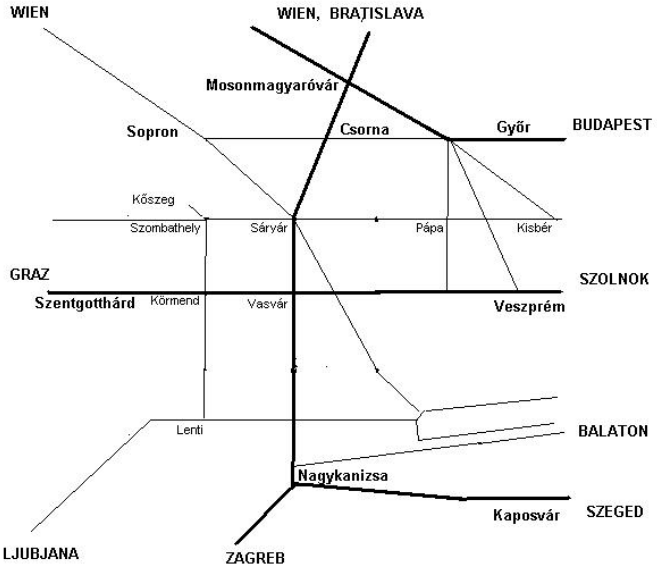

Figure 8: A scheme of the main road connections of the West-Pannon region Source: Based on the planned network of the Westpannon region in [12]

track (ro-la) station. At the moment one quarter of the M1 motorway's daily 600-700 track through traffic goes along road 85, in order to be put on rail in Sopron to continue its way to the west. A similar potential station in the Győr-Gönyű (or even Mosonmagyaróvár) area could fulfil this role even better both from the national regional and the forwarders' point of view, only the operators of the Sopron station are contra-interested. It is not useful to connect both the future role of Sopron and the proper satisfying of the general logistical demands to couple to a permanent additional development of the earlier settled Sopron terminal.

Both in the Sopron-Győr (road 85), and in the Sopron-Sárvár (and further on towards Sümeg and the Balaton, road 84) directions there is a need for the building of an up-to-date main road that by passes the settlements (and it is partly in process already). But this is typicaly a need for a main road and neither the Balaton area, nor Sopron's area is for the carrying of road through transport. Similarly the access of Szombathely, Zalaegerszeg, Nagykanizsa, and the other cities should also be the task of the main road network, and there is no reason to plan prestige-showing dead-end side branches into the overlay network to these centres.

We noted on the scheme the *Szombathely-Sárvár-Pápa-Kisbér* route, which has an important role in the better co-operation of the region and the northern part of Veszprém county. (Towards Veszprém County's southern part the connection is assured by road 8.)

At the same time we can agree with the aims of bettering the connections of the settlements at dead-ends of the *secondary road network*, and of generally substituting the missing network elements. (In Győr-Sopron county there are 12 and in Vas county there are 20 settlements right now with one single road connection [13].)

Border crossing points

Besides the development of the biggest lime-lighted crossing points - that belong in fact to the overlay axes - in the context of the euro-region a special emphasis hes to be given to the keep on opening small crossing points. In 1973 there were but seven road border cressings were operating, including the one at Vámosszabadi, open only for the Hungarian and Czechoslovakian citizens. (Vámosszabadi, Rajka, Hegyeshalom, Sopron, Kőszeg, Rábafüzes, Rédics). Today on the same border section there are 19 permanent and 13 temporary road border crossing points operating. (8 permanent and 5 temporary in Győr-Moson-Sopron county, (two of which can be used but by pedestrians and cyclists), 8 permanent and 8 temporary in Vas county, and 3 permanent in Zala county [13]). There are also preparations for opening further border crossings (Pinkamindszent, Kétvölgy) and the aim naturally is, that the borders do not be any more the cause of the abandonement of a connection or the obstacle of the revive of the co-operation at all once-existed road connection. The controlling task can be eased if at smaller crossing points only the citizens of the neighboring countries (in the case of Austria of the EU) are allowed to

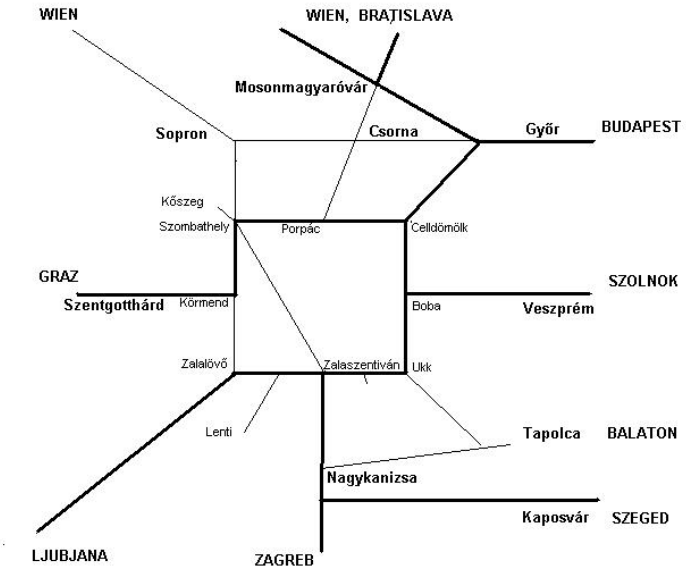

Figure 9: A scheme of the rail connections of the Westpannon region Source: Based on the Hungarian sections of the TINA rail network (1999. Sept.) in MÁVTI-KTI [11]

cross.

7 Euro-regions, trans-boundary partnerships

By the definition of the EU, those NUTS3 regions are border-regions, the frontiers of which are partly identic to the country frontier. In Hungary, the NUTS3 units are the counties, and 14 of the 19 counties are border-regions Strictly speaking, and insisting on the original Dutch-German initiatives the euro-region meant the co-operation of border regions from different countries [17]. But there are also examples to the use of the expression euro-region for more extended partnership relations. This phenomen is characteristic for the euroregions along the eastern and southern frontier of Hungary, including the Hungarian parts of these euro-regions, where counties not having directly country border are also involved into the cross-border co-operations. As such we can refer to the participation of *Heves* county in the *Carpatian euro-region* or the presence of *Jász-Nagykun-Szolnok* county in both *Carpatian* and *Duna-Kőrös-Maros-Tisza euro-regions* [13].

The *Vág-Duna-Ipoly euro-region*, considering it together with the *Neogradiensis euro-region* practically made already a step towards the enlargement along the border. In the case of the *Duna-Dráva-Száva euro-region* it seems not to be impossible (because of the size of the over-border part, because of the name of the region, and because Barcs and Szekszárd settlements are already involved from the neighbouring counties) that Somogy and Tolna counties soon join to the region. In that case, taking into consideration also the *West-Pannon euro-region*, there are but two more counties, *Veszprém* and *Fejér* left out from some euro-region co-operation. It is possible that once Fejer could join to Komarom-Pest-Nógrad counties (although by watershed, Fejér fits rather to the southern co-operation!) and qtextbfit seems logical to involve Veszprém county to the West-Pannon region. In this second case the attraction of Győr, the Marcal watershed and the earlier traditions of a bigger Zala county all can give arguments to the rationality of such decision.

By a such development not only all Hungarian county could participate in one of the euro-region's co-operation, but from domestic point of view the regional unites also would become quite balanced: with the generally 4-4 counties unites drawing out **five main zones as a Southern Alföld, a North- eastern-Hungary, a Southern Transdanubia, a Western Pannon and a four-county size Central region.** This five regions could also use their possibilities for a better internal (domestic) co-operation, perhaps giving a natural background to a better regional division..

8 Summary

The Hungarian infrastructure development arrived to a crossroad. Earlier the networks were built after different internal demands (although mostly lagging well behind them) while now there is a significant pressure on the country to develop the lines creating part of the European networks even set- ting a pace beyond its strength.

The basic principle of the common transport policy of the European Union: single network to the single market. Based on the subsidiarity principle, the Community generally doesn't deal with those transport issues of the internal relations of countries or regions.

Consequently the plans of the TransEuropean Networks (TENs) aim at the interconnection of the existing, operating and supposedly properly developed intra-regional transport systems.

In the same time in Central and Eastern Europe it is not enough to consider the connection to the big European network, as task of the future but parallely to that it also has to be assured that the internal networks become an operating system, that are able to serve the intra regional and in-country needs. The inter-regional networks may not substitute this internal links, what is more, the existence and the good operation of the supposed internal level is a condition of the effective operation of the overlay networks.

The European Union urges the extension of the TEN-Tr to the area of the candidate countries, and even beyond them to the east, underlying, how big is the importance of the fact that the candidate countries should dispose with an effective network, connected to the West-European network. In the frame of the TINA (Transport Infrastructure Needs Assessment) program the determination of the most important priorities and the projects of mutual interest has been started. The basis of the TINA network is the extension of the TEN axes. Besides the member countries themselves may suggest further axes, that get into the plans as secondary priorities.

The paper survey how the transport axes proposed in the frame of the TINA networks appears on the road- and rail network of Hungary, and especially that of the West Hungarian region.

The structure of the Hungarian transport networks evolved in the last century, when there was an aim of special importance the strengthening the position of Budapest within the Austro-Hungarian Monarchy, and the creation of a Hungarian centre that is competitive even with Vienna. In that sense the action was successful, with the creation of a unicentred structure the role of Budapest really considerably increased.

During the past two decades all transport policy or regional development analyses and programs underlined, that it was an aim of great importance to improve the overcentralised transport structure and the promotion of a more balanced territorial structure. In spite of that, the actual proposals continually support developments that not at all improve, but definitely increase the Budapest-centeredness of the country.Relating these proposals the paper make the following statements:

While one century earlier, by the construction of the main road system there has been born a totally new inter-urban structure, differing from the old network of the inter-village carriageways (secondary roads), this time the construction of the motorways and even the plans for their further development has got stuck into the existing structure of the main road system, always trying to make it good for bigger and bigger traffic. These plans consider most urgent the prolongation to the frontiers of the country those motorway sections, that were earlier constructed for adding new capacity to the most overloaded main roads leading to Budapest through the suburban area. The same network is considered to be the axe of the European inter-regional through traffic, and by that these plans intend the IV and V pan-european corridors rubbing through the Budapest agglomeration. Similarly harmful (the paper doesn't deal with that) that in a next step different accepted programs intend to reconstruct to motorway another four main roads starting from the capital. (M2, M4, M6, S10) by that increasing to eight the number of motorways that meet in Budapest.

The paper considers as the most important, improving the territorial structure of the country by changing the one centered net stuctures to an open net system in the plans and programs. This system is constructed from east-west and north-south corridors, from which only one of each crosses the area of the capital, the others lead elsewhere. Within that structure an urgent task to make possible the construction of the east-west corridor in the middle line of the country as soon as possible, and by that being able to decrease the burden of the capital. Area

From the whole above structure all three east-west and one north-south corridors crosses the Westpannon region. The paper identifies these corridors as Vienna-Budapest, Graz-Szolnok, Ljubjana-Szeged, and Bratislava-Zagreb axes respectively.

If we project the structural scheme to the existing road network we can fix the M1, S8, S9 and S86 road axes as the main through traffic corridors of the region. We added two further rectangular lines to that: the 81 and the M7 directions, emphasizing, that the road planned along the Balaton settlements is a proper main road for discharging the settlements from the traffic now crosses these resort area, but not proper for becoming the axe of the international transit, as it is not allowed to lead this transit through the tourist region. Similarly the paper

suggest to decrease the the through traffic load of Sopron, creating a ro-ls truck terminal along the M1 motorway and by that taking over a big part of the present function.

The main transport axes were also projected to the railway network. Here we can state, that this network is partly suitable, partly can be qualified for performing the transit in the main directions of high priority. Besides that, there is a special euroregion-type relation in the area to conduct a traffic by-passing the Alps in the Sopron-Szentgotthárd, Sopron-Bajánsenye directions. To develope this Vienna-Graz (-Ljubjana) north-south connection on the Austrian side would need extremly high costs because of the topological situation. A co-operation in this field seems to be mutually advantageous,as it needs but reconstruction of existing low traffic rail lines, without opening a new corridor.

Above we were dealing with the domestic sections of the European transport corridors from structural point of view, namely preferring a net-like, better structure of them for Hungary, against the existing one-centered system. We has to add, that this is only a solution for one part of the problem. The other mistake of the existing Hungarian conceptions, that they deal almost exclusively with the development of the big through traffic axes and the development - even the maintenance - of the main and secondary roads that serve the domestic traffic are falling into the background. That is why we underline, that even from a through traffic allowed accross the country in a better spatial structure, the regions crossed are able to gain profit only to the extent their (economic, cultural, turistic etc.) absorbing capacity make it possible. One indicator of the spatial absorbing capacity is the richness of the internal relations, and this is partly reflected, partly promoted by the existence, proper density and good state of the internal transport routes. The promotion of the creation of the local networks (not only in transport sense) is not a kind of sacrifice, that could be contrasted to the effectivity of the big axes, rather it is necessary to understand, that there is no chance to share the expected advantages comeing from the international axes, if there is not a properly densit and relation-rich local system having link to the overlay axes.

Finally the paper make a comparison between the Westpannon, and other euroregional co-operations at the Hungarian borders, and stated, that in the eastern countryside the euroregions also involved the internal counties (that are not directly dispose with the country border). Based on that information we constructed a theoretic model, when all counties of Hungary were involved in some euroregion co-operation, even well balanced unites could be created. In such a system the Westpannon euroregion should be extended towards Veszprém county, and this extension could be supported both taking into consideration the once attraction of Vienna in the area and the traditional county distribution. This extension could also create a chance for the advantages of the co-operation to filtering towards the internal part of the country.

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