

# THE DILEMMAS OF TRANSPORT POLICY AND SUSTAINABLE DEVELOPMENT WITH SPECIAL REGARD TO THE HUNGARIAN ROAD NETWORK

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## INTRODUCTION<sup>1</sup>

The major junctions of the broad range of topics embraced by the title are considered in three blocks in this article. The first comprises general considerations on the *principles of sustainability* relating to transport, the second summarises a few *critical comments* on the development of the high-speed road network, while the third puts forward *proposals* to eliminate the deficiencies exposed.

Of the range of topics, considerations on the development of the high-speed road network in Hungary are elaborated on in an assessment written with my colleagues and published in 2001, *A Széchenyi Terv autópálya-fejlesztési programjának stratégiai környezeti hatásvizsgálata [Strategic and environmental impact assessment of the Széchenyi Plan's motorway development programme]* (Fleischer et al. 2001). A summary of the assessment was published in the October 2002 issue of *Közlekedéstudományi Szemle* (Fleischer et al. 2002), so I shall endeavour to keep repetition to the minimum here. For those who may be interested in further details, the assessment of over one hundred pages can be downloaded from the publications (issue 6) of the BKÁE Környezetgazdálkodási Intézet at the following address:

<<http://korny10.bke.hu/kti/kiadvanyok.html>>

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## SOME INTERRELATIONSHIPS OF SUSTAINABILITY AND TRANSPORT

**Besides the well-known aspects of sustainability relating to time, attention should also be drawn to the *spatial relations of sustainability* as regards transport**

Sustainability is most frequently considered as an issue of *time*. A fundamental element of sustainability is that *we must conserve available resources for future generations*. Indeed this approach has spread since the Bruntland Committee's report "Our Common Future" in 1987, and can be put more succinctly as the requirement of *intergenerational solidarity*.

What is discussed far less often from the aspect of sustainability (albeit that several disciplines deal with certain segments of this issue – social, cultural, regional etc. relations – from different points-of-view) is the similarly important role of *intra-generational relations*, that is the relations evolving between people living at the same time. In any event, it is worth emphasising that the intra-generational relation is *two-way*, as opposed to the single direction, the asymmetry of intergenerational solidarity, in which our descendants, for whom we are so concerned, can do nothing in years to come in our interests (as we, of course, can do nothing for the generation which preceded us). In contrast with this in the intra-generational relation the requirement of *spatial solidarity* can be expressed in the model of solidarity in time (that is we should not exhaust resources, depriving others of them, and we should live so as not to make the living conditions of others impossible). However, this does not conclude the relationship, as the reverse can happen: the lifestyle of *others* can begin to restrict *our* opportunities. Thus, besides *intra-generational solidarity*, we need to be prepared for circumspection in the reverse direction which here is called *intra-generational self-protection* or *spatial self-protection*.

Of these two spatial directions of the prerequisites of sustainability, it appears that – possibly due to its parallelism with intergenerational solidarity – the need for spatial solidarity is still talked of far more often than the opportunities for spatial self-protection and what needs to be done in this respect.

Manuel Castells (Castells 2000) introduced a pair of concepts of undoubtedly fundamental importance which help a great deal in understanding this domain of spatial sustainability. Castells interprets the *space of places*, which needs protection precisely for its sustainability, as opposed to the *space of flows*. By 'the space of places' we understand the physical space around us, our everyday environment, which has meaning and significance for us. The 'space of flows' is the field bearing the external impacts exercised on this environment. To avoid misunderstandings, it should be pointed out that Castells does not suggest exclusion on the grounds of defence, that is that the external impacts should be excluded or that creating internal

changes should be obstructed, but warns of the need for harmony and scale. External impacts can only be absorbed to the extent that internal structures allow; or vice versa, the internal structures need to be prepared to absorb a specific external impact. Too strong or too sudden external impacts do not serve but rather break up internal structures, and this is exactly why there is a need for protection.

This apparently totally theoretical approach alerts us to extremely important practical action that needs to be taken in terms of transport networks. The *space of places* and the *space of flows* can both be translated to the transport and economic relations of a region. In other words, the *system of connections within a region* is able to explore, supply and strengthen the space of places, while for the space of flows roads *approaching, crossing and bypassing the region* provide physical opportunities for movement. Categorising both the 'spaces' and the 'roads', however, is relative: what may be an internal connection for the *whole region* is from the standpoint of *a town* an external approach or even transit traffic. Accordingly, neither the 'space of places' nor 'the space of flows' is an absolute category, and precisely for this reason it is not possible even in principle to express a complete and unilateral priority in favour of one of them.

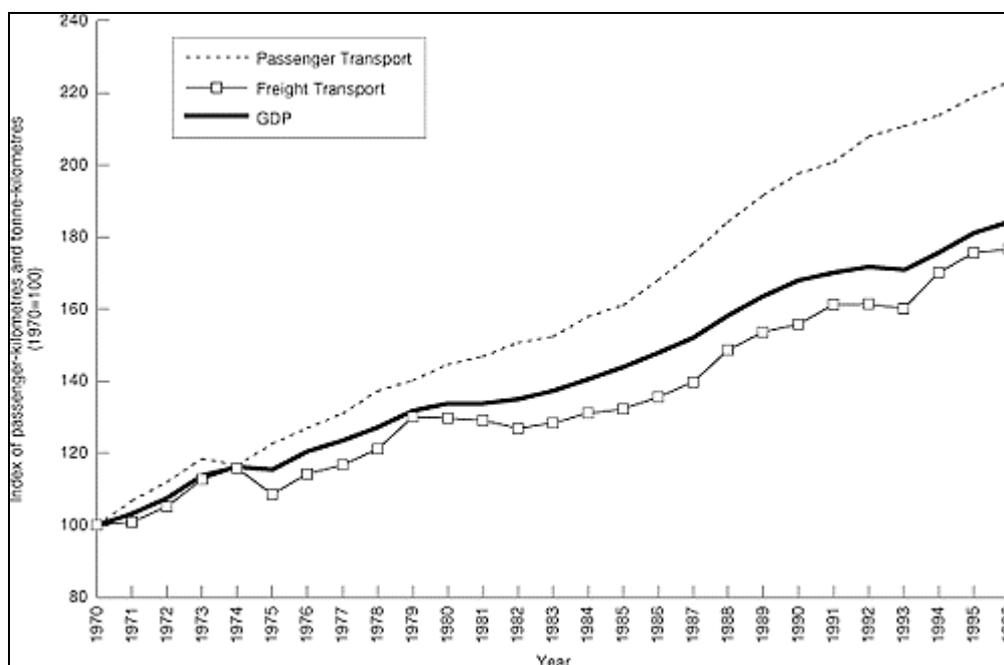
Protecting the space of places from flows means from the aspect of the system of connections that *the extent of serving and building external connections, while fully recognising its importance, cannot be detached from the extent to which the internal connection systems are able to provide for the region in question from within*. Conditions related to this can be expressed as theoretical requirements (Fleischer 2001) but here we will enlarge on considerations on the high-speed road network. Before doing so, however, attention must be drawn to two other concrete links between sustainability and transport.

### **Sustainability in transport is not identical with sustaining the degree of mobility and maintaining growth in the amount of traffic**

In September 2001 the European Union published its new transport policy 'Time to Decide 2001'.

This document reviews the position and problems of European Union transport, and the efforts over the last few decades, in the final analysis unsuccessful, which were directed at endeavouring to keep the continual expansion of infrastructure in step with the prevailing growth in traffic. Based on this, the crucial statement is made that in the future the practice of increasing the volume of traffic at a similar rate as economic growth, which continues to be considered desirable, cannot be sustained. This acknowledgement is not entirely new, as environmental programmes, for instance the EU's 5<sup>th</sup> Environmental Action Programme, raised the problem earlier. However, it was an important step forward that this time a document *servicing as a*

*basis for transport developments* was built on the statement that in certain cases intervention *directed at reducing traffic* could not be avoided.



Source: EU Transport in Figures - Statistical pocketbook 1998 DG VII Eurostat

**Figure 1. The relative growth in passenger transport (---), GDP (—) and freight transport (-□-) in EU member states compared to 1970 values.**

Unfortunately, on this issue two completely different interpretations regarding the use of the concept “sustainable mobility” have become widespread. In one interpretation, compatible with the above, the requirement of sustainability means narrowing the opportunities for mobility, that is seeking solutions where *satisfying the quality needs* of transport comes into the foreground and ever increasing traffic becomes avoidable. Contrary to this a diametrically opposed use of the concept is becoming more widespread in which *today’s interpretation of sustaining the degree of mobility* is used to mean sustainable mobility.

This latter interpretation is also present in the latest version of a review of Hungarian transport policy issued for debate, which appeared on the Ministry of Economy and Transport’s web site dated 5 August 2002. (The text is, however, a barely modified version of the discussion material prepared for a domestic review process in August 2001, that is before the EU transport policy was published.) The document’s perception of the issue becomes apparent from its first paragraph: “Increasing mobility is today a worldwide phenomenon. [...] At the same time transport causes environmental damage, and endangers people’s lives and health. The two sides are contradictory. Resolving and balancing this contradiction is the task of transport

policy: how to satisfy the demand for increasing mobility while minimalizing its adverse consequences and make sustainable mobility a reality.” It is clear that satisfying “the demand for increasing mobility” as an objective is fundamentally opposed to the EU conception of reducing traffic if we try to classify both under the heading of “sustainable mobility”.

While Hungarian transport policy devotes broad attention to the environment and reducing emissions from transport, its authors noticeably decline to accept the lesson that these steps are necessary but insufficient, and *sustainable living conditions* can only be ensured when the continuous growth in traffic has been successfully curbed. The compulsive rejection of objectives aimed at reducing traffic must be linked with the idea that the income of transport workers originates from traffic, and thus reducing traffic threatens the sector both by a fall in the number of tasks and a fall in income. This inference, however, is wrong. Let us look, for example, at food production. The consumption of food at a certain stage of development stops growing in terms of quantity and indeed begins to fall. Nevertheless, this fact in itself does not mean that the profitability of food production will fall as well. In fact the opposite is true: through processing, providing quality and variety, and observing health requirements, numerous new services are integrated into the production, which are all marketable and generate higher income.

For transport, too, the organised service of quality requirements, and the provision of a service that is by no means cheap must represent the future. Undoubtedly, preparing for this requires a change of mentality, including understanding that the satisfaction of this service cannot be dealt with as separate technical or technical/economic tasks, but that we must integrate the aims of transport development into a broad circle of urban, regional, environmental, social, cultural and economic objectives.

### **Sustainability in transport can in no way mean sustaining earlier attitudes, plans and ideas without review**

Another important cornerstone of the European Union’s new transport policy is that as a start it assesses the uneven results of its 1992 predecessor. According to this, opening up the formerly separated national transport markets (with the exception of the railway) has been successfully completed. However, its effect, apart from increasing competition, is felt on the one hand in the reduction of tariffs to a level that imperils the future of some sectors, and on the other in the consequent, continual forging ahead of road transport’s share within the transport sectors (which the EU’s transport policy unambiguously views as a problem).

In any event, it is instructive to point to the new slogan of the EU’s transport policy “Time to Decide” as an inherent demand for a review of mentality. The re-

view of the Hungarian transport policy issued for professional discussion on 5 August 2002 cited above seemingly wants to prevent anyone from expanding the review to the basic principles in this issue as well. “The main strategic directions of Hungarian transport policy, taking account of Hungary’s specific characteristics, concur in spirit with the priorities of European Union transport policy. This is confirmed by the fact that the European Union’s Economic and Social Commission agreed with the long-term main strategic directions of Hungarian transport policy laid down in the resolution of Parliament passed in 1996.”

In any case, it must be emphasised – without diminishing the significance of the praise of six years ago – that that transport policy naturally conformed with the 1992 European Union priorities, and the EU delegation praised it on this basis. The fact that the European Union now considers its own endeavours of ten years ago in need of amendment in itself should make Hungarian decision-makers who wish to restrict the domestic review to secondary levels, referring to conformity with earlier priorities, pause for thought. Besides this, however, it is also worthwhile examining in the context of high-speed road networks whether Hungarian transport policy really adopted and applied relevant earlier EU priorities in Hungary’s best interest.

#### **CRITICAL COMMENTS ON THE CURRENT DIRECTION OF THE DEVELOPMENT OF THE INTERREGIONAL TRANSPORT NETWORK**

Current official plans on the development of the interregional transport network in Hungary are criticised below from three main aspects. The first critical remark refers to *the exaggerated importance given to the interregional level*, the second comment objects to *the neglect of the links between candidate countries themselves*, and the third observation condemns *the further strengthening of the single-centred transport structure* in Hungary. The unclarity of further network development compounds the problems of principle in the long-term planning of the high-speed network, in respect of which we will list our main objections item by item.

#### **When the effective Hungarian transport policy was conceived, too great an emphasis was laid on the development of *interregional connections* at the expense of the role of local connections and those within regions**

The concepts of the planned corridor systems both in Hungarian transport policy and that of candidate countries in the region drew significantly from the established but now superseded Common Transport Policy guidelines. Thus it is right to briefly recall the central thrust of the 1992 document before looking at international corridors.

The main goal of the 1992 EU transport policy document can be summarised by the slogan “a common network for a common market”. Accordingly, efforts were di-

rected at *linking together* the national networks of member states, and the Common Transport Policy, as its name suggests, did not deal with issues of the internal transport of the countries, but purely the “common” affairs. Thus the target level was solely the *interregional level* of transport.

The chief means of connecting national networks was through developing trans-European networks (TEN). The idea providing the basis for this, corridors crossing Western Europe, came about in the eighties and the main plans of the networks had been conceived by the Strasbourg summit in 1989. In 1992 the targets set by TEN became part of the Maastricht Treaty, and in 1996 the EU confirmed in guidelines its intention to develop TEN, which had by then taken shape as 14 priority projects (TEN Guidelines 1996). As regards structure, however, the concept conceived in the eighties was unchanged, irrespective of the fact that the Iron Curtain had fallen in the meantime, and links between the western and eastern halves of the continent had been revived.

Creating the transport background for connections evolving with the eastern half of Europe channelled into two other processes: one was the *Pan-European corridor system*, and the other the so-called *TINA process*. These points will be discussed a little later.

The currently effective *Hungarian transport policy* was passed by Parliament in 1996 (Közlekedéspolitiká 1996). This document was carefully thought through and devoted equal attention to regional balance, links with the EU and neighbours, the economy, the environment and safety. Of its five main strategic directions, emphasising the promotion of EU accession became dominant in practice, and in particular in a *one-sided interpretation which regards promoting EU accession as being the same as the requirement of building links at an interregional level as soon as possible*.

Today it is hard to establish the extent to which the fact that the acceding countries, including Hungary, tried to follow the priorities of the EU Common Transport Policy as a *model* in their own transport policies (which as has been shown in essence exclusively aimed at connecting the individually developed national networks on an interregional level) influenced the development of this one-sidedness. If this is so, following the model must be considered a serious misunderstanding, but it should be added that there was no perceivable attempt on the part of the EU to help resolve this misunderstanding.

This resulted in an unjustified priority being given to *the level of interregional connections* (the carrier of the “space of flows”) from the multi-level transport system in the development concepts at the expense of the *inter-town* and *inter-village* connections (which, however, provides the connection background for the “space of places”). From a functional aspect this means that building a connection system ensuring the country’s *internal exploration* does not keep pace with developing the

*crossing* and *approaching* of the country. Through this, however, the very conditions which would enable the domestic economy to *absorb* and *utilize* the advantages expected from the interregional networks are not being created.

**When creating the Pan-European corridors, the European Union laid stress on extending the trans-European networks and the *east-west* connection. At the same time, the importance of improving links between the acceding countries got lost**

The *Pan-European network* was specifically created to extend the TEN in the framework of the 1991 Prague, 1994 Crete and 1997 Helsinki Pan-European conferences. By 1997 a total of ten transport corridors were marked in the expansion area to complement the given TEN network. The EU's approach together with the euphoria to expand prevalent in the early nineties both contributed to directions radiating from the Union and *creating east-west connections* receiving a dominant role when marking the ten corridors. In fact there is only one uninterrupted north-south corridor among the ten: corridor IX running along the eastern edge of the region, linking the Finnish and Greek networks. The other more or less followable north-south link consists of parts of four or five separate corridors that happen to hang together, going westwards towards Bratislava and Vienna both from the south and the north. Within Central Europe there is no other north-south Pan-European link to the east of Bratislava, including another 650 km on the Slovakian-Hungarian border.

Another initiative, the transport infrastructure needs assessment (*TINA*)<sup>2</sup>, started in 1995. The 15 EU member states, the guardians of the TEN, in principle were to pass on their professional experiences in the framework of the process to transport experts from the twelve countries interested in expansion. In theory this should have afforded the countries concerned the opportunity of now deciding jointly yet from their own standpoints the system of corridors they considered necessary. In practice, however, two small discrepancies were perceptible in the process that ended with the final document of 1999. One was that the assessment of needs and the methodological co-operation had been conducted as if in a decision-making process of a political body which tried to have the network proposed by the group of experts accepted as an international agreement, although it was not supported by environmental, social and economic impact assessments. The other was that the network's two elements, the *backbone network* and the *supplementary network*, had different priorities. The countries concerned could put forward suggestions for the sections of the *supplementary network*, but these elements only had *secondary priority* in the TINA process. As regards the *backbone network enjoying primary priority* – to the greater glory of the single methodology –, a few short lines in the final document of the process

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<sup>2</sup> Transport Infrastructure Needs Assessment.

intended to create a single methodology for the assessment of network developing concepts reported that “*the Commission proposed to use the results of the Conference as a basis for the backbone network definition: the ten multi-modal Pan-European Transport Corridors. It was understood that all parties concerned agreed on the need for the Corridors so that further economic or financial justifications were not required*”<sup>3</sup> (TINA 1999).

For the time being it seems that, although the TINA process afforded countries interested in expansion the opportunity of considering the network links they would need from their own viewpoints, no *priority* (=EU subsidy?) is attached to these elements, as *priority* continues to only apply to corridors formerly developed to extend the TEN.

**Furthermore, in Hungary interregional corridors are being built in a flawed structure strengthening the earlier *single-centred hierarchy* and expressly hindering the creation of a change in spatial structure**

Two problems have been highlighted until now. On the one hand, the EU applied different considerations in *expanding* the TEN than in delineating the original networks. As a consequence of this while the TEN handles the north-south and east-west corridors *homogenously* within the EU, this is not so in the expansion area, where *links directed at the EU have been given priority*. On the other hand, through copying the endeavours of the EU’s Common Transport Policy the *development of interregional links* received *exaggerated priority* as opposed to internal (main and secondary) links in the objectives of both Hungary and other acceding countries.

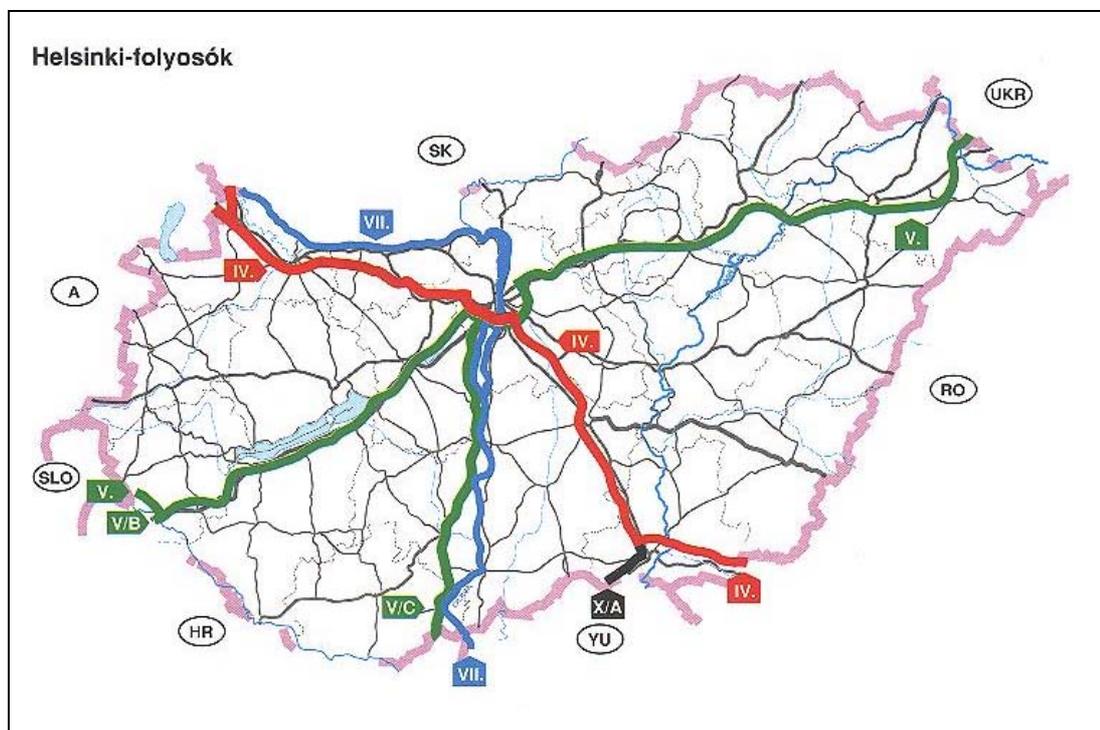
Not only have interregional corridors been given exaggerated priority in Hungarian development plans, but *the contents of the plans or plans actually being constructed have been created in a flawed structure*. While the objectives of main regional, economic, transport and environmental documents without exception highlight the necessity of resolving the single-centred radial system, the transport network’s development *projects* are stuck in the existing structure and further strengthen Budapest-centred connections.

Hungary’s Budapest-centred transport network goes back 170 years. Count Széchenyi, Hungary’s champion of development in the 19<sup>th</sup> century, devised a plan that very consciously placed Budapest in the centre of the road and railway networks. This successfully provided the foundation for a city to develop in the middle of Hungary which could become a counterbalance of comparable stature to Vienna. When

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<sup>3</sup> TINA 1999, p. 25, 3.1.1.

Széchenyi planned the main network, he created not just a new function but also a new structure compared to the former cart tracks.



Source: Útgazdálkodás 1994-1998. KHVM, Közúti Főosztály [Highway Management 1994-1998. (Highway Department, Ministry of Transport, Telecommunications and Water Management)]

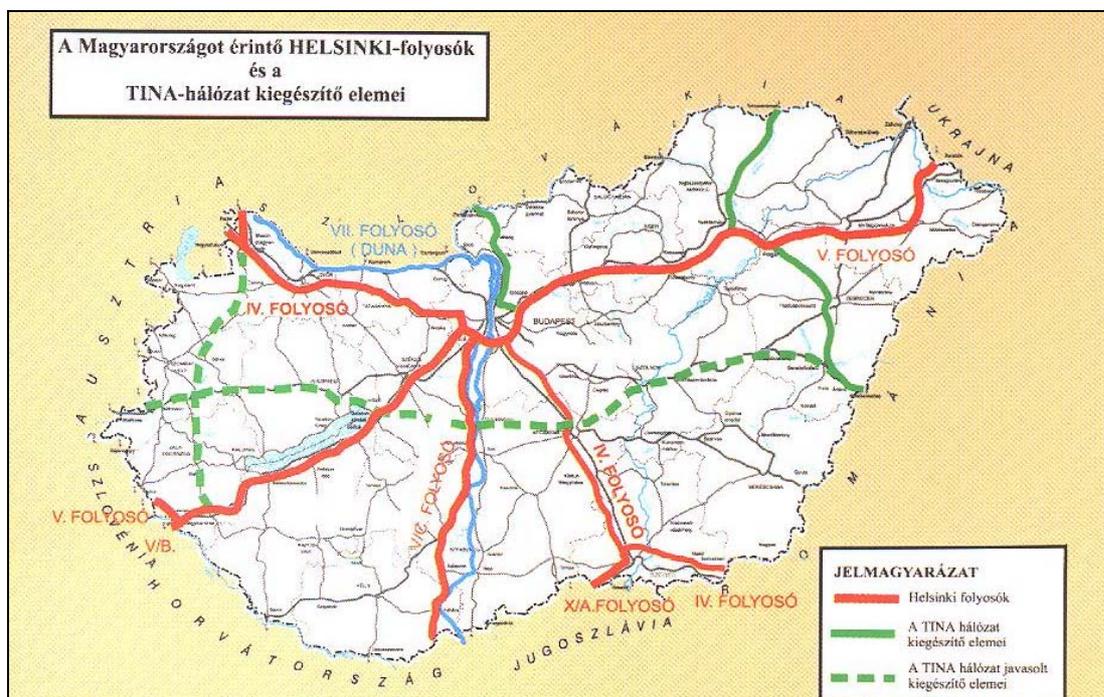
**Figure 2. The official Hungarian interpretation of the Helsinki Corridors in the road network in 1998 (and since)**

The appearance of the interregional corridors compared to the national main road network represents the same change of scale as the introduction of (imperial) main roads compared to the local cart tracks. In spite of this the development of a structure matching the new scale has not come about. The plans for domestic corridors were not considered as a comprehensive network structure and the process to decide where a motorway should be built has been mainly governed by the need to expand the local capacity of the main road network.

It was on this improvising development policy that the programme was built which had motorways planned alongside the radial main road network adopted as the routes of the Pan-European corridors crossing the country (*Figure 2*). One look at the figure shows the planned corridors will not reduce the incline between the capital and the provinces – on the contrary they will reinforce and increase the spatial imbalance between the country's regions.

Neither do plans for the future encourage the implementation of a marked structural change although elements are gradually appearing that could promote this happening.

As shown above, the Pan-European corridors automatically became the backbone elements of the TINA network, and Hungary only had the chance of expanding the TINA network by supplementary elements of secondary priority within its own territory. *Figure 3* shows again in red the backbone network of Figure 2, marking with a solid green line the corridors successfully accepted as supplementary elements in the TINA process and with a green dotted line the corridors which since 2000 the Hungarian government would also like to be accepted as TINA corridors.



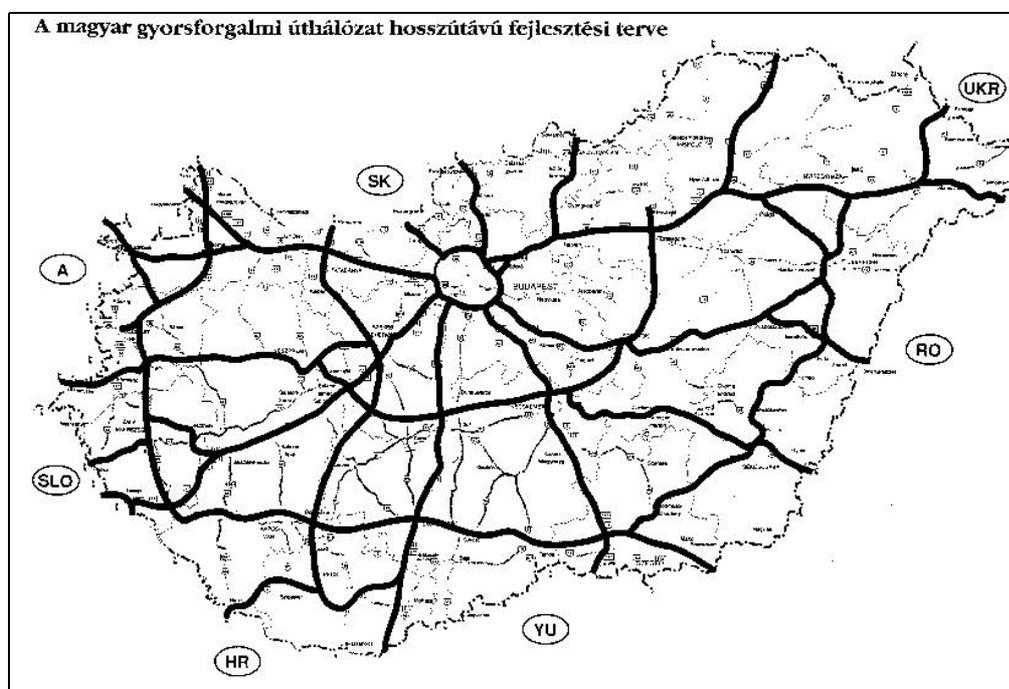
Source: A 8. sz. főút fejlesztési feladatai... UKIG Hálózatfejlesztési Főosztálya 2000. szept. 13-15 [Development tasks of Road 8, Network Development Department, Directorate for Road Management and Coordination, 13-15 September 2000]

**Figure 3. The Helsinki corridors and the network's supplementary elements 2000**

At the same time, a development in thinking can be seen in Figure 3, almost separating efforts until 1997 from those thereafter. One way of interpreting the figure is that the red lines show the Budapest-centred, radial plans (with high-speed roads along the earlier main network), while the green shows a few important elements of a grid structure based on north-south and east-west corridors.

**The long-term Hungarian development plan for high-speed roads reveals that for the time being it is not at all clear what the function of the interregional network is**

All these corridors and many other proposals were presented in the plan which seeks to show the “finished” fully developed plan for the high-speed road network projected onto a long-term date. The main task of such a plan should be to conceive the final structure of the network by 2030 (so that problems requiring a solution urgently can be integrated into the long-term system). In lieu of this the plan in *Figure 4* can be viewed as a ‘do it all’ document, which belies the fact that the structural questions are *not* thought through, that the network *does not cohere* in a single and logical structure, and as a consequence the system is also unable to take on current plans – indeed it merges them indiscriminately.



Source: Szabó László (1999) *Fejezetek és dokumentumok...Állami Autópálya-fejlesztő és -kezelő Rt.* [László Szabó (1999) Chapters and documents, State Motorway Development and Maintenance Rt.]

**Figure 4. Long-term development plan for the Hungarian high-speed road network, 1999**

Our main conclusions on the faults of the plan are summarised in points (a) to (f) below.

- a) The long-term high-speed road network preserves the remains of an earlier radial-ring concept, while particularly on the Transdanubian side the continuity of these rings is disrupted and grid-like corridors traverse the country.

This duality could be interpreted as a sign of development but, more strictly, it is considered here an inconsistency and a *structural flaw to mix orbital and axial logic*. An example of this flaw is Road 8 turning into a “middle ring” ending at Eger.

- b) The entire network manifests unclearness and the *mixing of functions of the main road network and the interregional corridors*. Today even main roads connecting cities should bypass inner areas but this does not change the fundamental structure of the network and does not make main roads that bypass inner areas suitable for national transit traffic. Especially on the Great Plain the long-term high-speed network consists almost entirely of the main roads themselves.
- c) It is partly due to the same unclearness of functions that the high-speed network *is intended to directly serve precisely those traffic-sensitive areas which it should relieve*. Such an example is tightly surrounding Lake Balaton with corridors carrying interregional traffic or the fact that the network does not trust the operation of its own east-west traffic relieving elements (Roads 8 and 9) and introduces further radial high-speed roads to approach the capital. (In all, seven single-digit main roads start from Budapest, and the long-term plan complements them with eight high-speed roads, adding another four to the existing M1-M3-M5-M7 motorways.)
- d) Unclearness of principle and function is indicated by certain towns being linked to nearby corridors by cul-de-sac high-speed links. Naturally, both Szombathely and Eger must be connected to the corridor but in the same way as main roads of appropriate capacity link Székesfehérvár or Győr to their nearby corridors, planning prestigious interregional branch roads in the above cases is not justified either. Although not a cul-de-sac branch, making the Zalaegerszeg-Balatonszentgyörgy link an interregional element is a similar error.
- e) Parallel corridors in the vicinity of each other on the map also indicate unclearness of principle. A corridor's task is to funnel in traffic from a broad band and thus relieve the interlying area of traffic that has no reason to be there. The close parallels show that the planners did not consider solving this task but “up-graded” existing roads. Such an unjustified parallel is the approach of the M4 high-speed road in the capital alongside the M5, or sections of the M7 and M61. A similar parallel is increasing the density of high-speed border links along the western border.
- f) Although they cannot always be eliminated, small triangles on the map usually indicate unclearness that needs to be resolved. At the M3-M0 junction, the link from Gödöllő is justified, but the other short lines in the logic of a

high-speed road network are erroneous, even if one of them represents an already built section of motorway. It is also worthwhile considering in the Polgár-Nyíregyháza-Debrecen triangle whether the separate construction of a “direct” Nyíregyháza-Debrecen link could be discarded by modifying the current route. In the Veszprém-Székesfehérvár-Aliga triangle the error already referred to above, the intention of relieving the shoreside road with the M8, causes a problem. If it is conceded that on the Fűzfő-Aliga route the construction of a main road bypassing the towns and not the draw of a transit corridor is needed to solve the local problem, naturally neither will it arise that there should be two separate corridors leading from Veszprém towards Székesfehérvár and Lake Balaton.

#### **THE TASK, MODEL AND STRUCTURE OF A PRACTICAL HUNGARIAN INTERREGIONAL NETWORK**

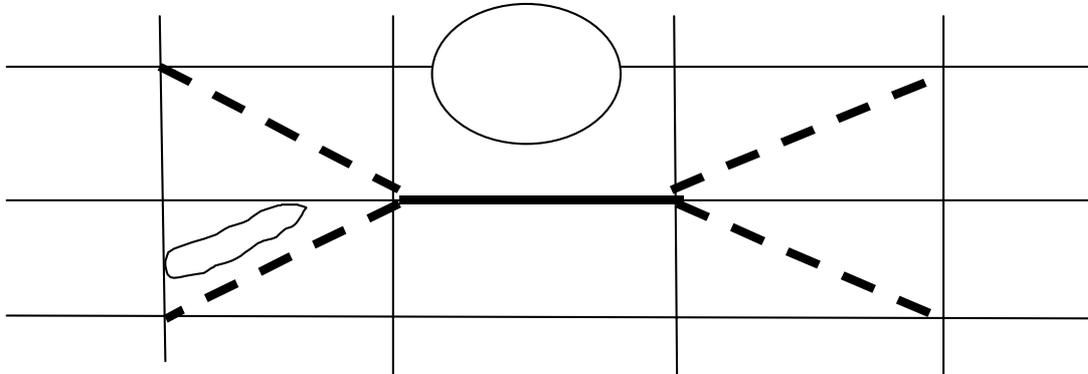
Harsh criticism aside, it is also justified to take steps towards creating a network which conforms to the expressed requirements based on the set objectives.

#### **The level of the high-speed network connecting regions should be separated from earlier network layers, creating an open grid structure and crossing the country with the least possible disturbance**

In the title the most important principles to observe were listed. Accordingly, the high-speed network is one of the strata of the multi-layered road network that can be *separated as regards function*. Its task is to *connect regions with each other*, and to collect traffic with the same purpose. To this end, an *open grid structure* needs to be developed, which differs strikingly from the radial-ring arrangement of the existing main network, and is independently able to connect the country's regions with each other and with the regions of neighbouring countries. Meanwhile it is an important criterion that this traffic should *cause minimal disturbance* to the life of the country in the areas it crosses. To reduce environmental burdens, other criteria should be imposed such as corridors crossing the country with the minimal overall length; avoiding ecologically sensitive, densely inhabited, and traffic-laden areas; encouraging the use of means and modes of transport that pollute the environment less, and enabling the payment of the costs of transit by those crossing the country.

First the skeleton of a network suitable for the creation of the desired new structure is shown with the aid of a diagram (*Figure 5*). The figure shows a grid network and a possible way of leading the *Pan-European corridors* diagonally across the country. Two traffic-sensitive areas, the resort area around Lake Balaton and the conurbation around Budapest, have been marked. These need to be avoided and re-

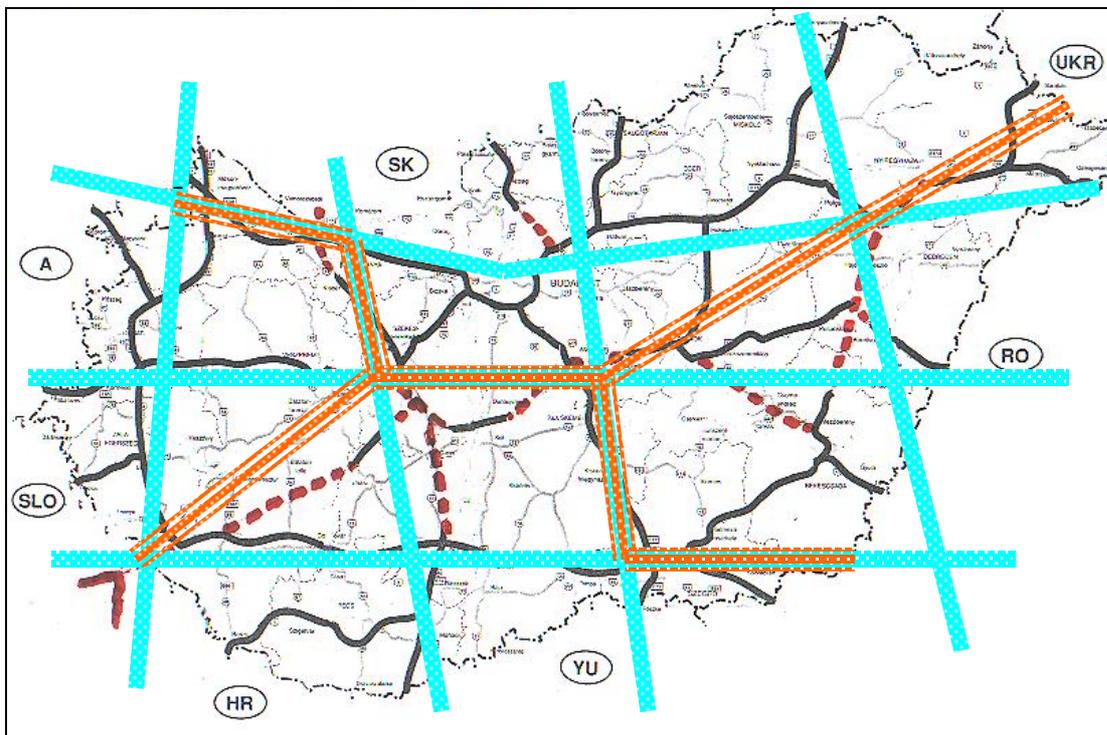
lieved of traffic that does not belong there rather than burdened with traffic from other regions.



Source: Based on “A magyar gyorsforgalmi úthálózat...” [The Hungarian high-speed road network] (Fleischer 1994)

**Figure 5. Transport corridors including the Helsinki corridors in an open grid network model**

In *Figure 6* this schematic network has been placed over a map of Hungary, and we have tried to select the elements from the 2030 plan analysed in *Figure 4* which could be made to meet the functions targeted.



**Figure 6. Draft of an alternative proposal for a long-term high-speed network**

In the figure a solid black line indicates the sections from official concepts which seem to be retainable, while a broken line shows where new routes have to be introduced to make the network cohere.

It is interesting that due to topological features the lines of north-south and east-west grid elements in many cases make the scheme's separate diagonal elements redundant. Thus the Győr (Gönyű) – Székesfehérvár link, if appropriately formed, can be both a diagonal element and a section of the north-south corridor. Likewise the Kecskemét–Szeged section of the M5 motorway is simultaneously a diagonal element and a potential section of a north-south corridor yet to be developed. Although the Szolnok–Nyíregyháza diagonal is not marked in the figure, the M4 could stay close to Road 4, albeit in a none too favourable manner: the official long-term plan does not differentiate between the two. This section would then be simultaneously a diagonal, with one part (Szolnok–Püspökladány) becoming a section of the east-west corridor and another part (Debrecen–Püspökladány) a section of the north-south corridor. Accordingly, of the diagonal elements marked in the figure, only the M7 requires a separate line.

### **Considerations on a network level must still be complemented by a corridor-level analysis on a strategic scale**

The system shown in Figure 6 has been made bearing *network considerations* in mind, but cannot be considered as an elaborated plan. It is presented with the intention of illustrating the structure and density of a high-speed network harmonising with the above aims. First the principles providing a basis for the scheme must be debated and accepted, then plans can be prepared and decisions made for the network and each corridor.

Attention must also be drawn to the fact that the comprehensive analysis of the corridors is part of the approach at a strategic level, and may not be merged with the preparation of plans on a project level.

From the official plans essentially the concepts of the M1–M3 and the M9 east-west corridor may be kept. As regards the M8–M4 middle corridor, it must be noted that the function of an interregional corridor is not compatible with the secondary function of also being a bypassing section of main road 71, and cutting into the Balaton resort area. To the north of Kecskemét we promoted a solution to avoid the construction of a separate M4 approach to the capital in addition to the M5. To the east of Szolnok it is worth considering that the M4 would also be capable of serving the Békéscsaba area, going a little further south of Road 4, which would make the high-speed branch towards Békéscsaba marked in the diagram unnecessary.

Of the north-south corridors the role of the M86 is the clearest. In the figure in the Győr-Mosonmagyaróvár-Sopron-Szombathely square clearly the Győr-Mosonmagyaróvár and Mosonmagyaróvár–Szombathely high-speed directions have been given priority. At the same time it is worth considering that in this square, by altering slightly the route of the M86 and shifting the Sopron branch to the north through the M1-M86-84 directions, the Győr-Sopron link could be also given a high-speed role.

As regards the Road 81 north-south corridor, we suggest the proposed place for crossing the Danube be shifted from Komárom towards Gönyű (which naturally would have international consequences). To the south of Székesfehérvár we directed this corridor towards the southern border crossing of Road 56 instead of towards Dombóvár. One important reason for this is that in this system this link would form the Pan-European Corridor V/C to the south of Székesfehérvár (similarly to the rail corridor branching at Pusztaszabolcs).

The M5 forms the southern section of the next north-south corridor, but it is not clear (and similarly has international repercussions) whether its continuation in the north would be formed by the M2 leading to the north from Gödöllő, or the M21 in Zagyva-völgy. As an accepted TINA link we considered the Hungarian section of the Košice-Oradea north-south corridor given. It should be noted, however, that for the time being this corridor is marked over main roads, and it is not at all certain that the routes of the earlier main roads should be insisted on at the project level, too.

The only independent diagonal element is the M7, and it is important to draw attention to the fact that it is not at all justified to retain the currently planned route crossing the Balaton resort area along the shore as the high-speed corridor.

The above quoted work (Fleischer et al. 2001), prepared for the strategic environmental assessment of the Széchenyi Plan's motorway development programme, had to express an opinion on high-speed sections planned in more detail as projects, following the above general principles and based on statements about the corridors. The Széchenyi Plan and the Széchenyi Plan Plus documents identified a total of thirty projects to construct high-speed road sections or bridges. Just over a third of these planned investments fully fit into the corridors of the long-term high-speed network devised in accordance with the principles presented here – and even conform with the objectives of accepted Hungarian regional development and environmental protection or the general aims of the Széchenyi Plan. Another seven investments agree with the concepts for the corridors with some alterations due to network cohesion, while 11 planned investments were found to be explicitly contrary to the general objectives.

A strategic assessment at network and corridor level made at the right time could have prevented concepts which were debatable at a corridor level or contrary to general objectives being elaborated at project level.

**Outlining a long-term high-speed network on a functional basis is necessary even if today there is no real demand for interregional traffic for most of the corridors**

Approaching the issue of routes in practice, more and more questions are raised for debate, particularly by people familiar with local conditions. However, at this point instead of raising problems, it is expedient to take a step back and summarise general principles for professional debate below.

It must be emphasised that the aim was to give the development of the long-term interregional network a foundation in principle. Such a network must be outlined even if in the lack of an appropriate volume of interregional traffic there is currently no solvent demand for most of its elements. Until a section of road is built, naturally the traditional main road network will handle its traffic. Nevertheless, reviewing the entire network's interrelationships is necessary to be able to fit plans in with the logic of the long-term network, where demand for construction arises. It is essential in our approach that we always handle the high-speed network as a *functional unit*, and do not make distinctions based on current technical parameters.

**SUMMARISING GENERAL OBJECTIVES**

- (1) One of the key messages of the new EU transport policy is that it is insufficient to improve the situation from the transport supply side: intervention is also necessary with trends on the demand side. This specifically aims at *reducing traffic*, which cannot be achieved by exclusively using technical means of transport.
- (2) It follows from this that modern transport policy may only be formed through the *integrated treatment of regional, economic, technical, environmental and social aims*. The comprehensive role of an environmental approach integrating into environmental policy is important. A means for integrated treatment, i.e. the institution of the *strategic environmental assessment*, is also currently being developed.
- (3) Within transport, too, an integrated approach is called for: this means the requirement of *multi-modality*, including the requirement of *multi-layeredness*, and thus the parallel consideration and proportionate treatment of the functions of *internal exploration* (space of places), and *external approach, transit and by-passing* (space of flows).

- (4) Both within the multi-modal and multi-layered approach, the interregional road network forms a single layer. We have drawn attention to the fact that current programmes wish to develop this network in an imbalanced way both as regards priority and structure, and *contrary to the declared objectives*. Then we have shown, as an alternative to the current official concept, the model, network and corridors of a network structure better harmonising with the general objectives.
- (5) There is a need to *discuss principles* and then on the basis of accepted viewpoints *review old concepts* to see the extent to which they may be offering answers to problems of the past, today superseded, and the extent to which they serve today's objectives.

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AND SUSTAINABLE DEVELOPMENT  
WITH SPECIAL REGARD TO THE HUNGARIAN ROAD NETWORK**

Tamás Fleischer

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