Are motorways good for the Hungarian economy?

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> **„...what does the EU give to Hungary, and what do we spend the money on? I agree with those who say that at most 30 per cent of the received funds should be spent on boosting the economy, and 70 per cent should be invested into the Hungarian society itself. The newly admitted countries invested a substantial part of the money from the Structural and Cohesion Funds into their infrastructure, the only exception being Ireland. They spent 80 per cent of the EU support on education, on building a knowledge-based society. Look at them now, how far the Irish have reached!"**
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> *István Fodor, President of Ericsson Hungary,*
> *and Chairman of the Hungarian EU Enlargement Business Council*
> *(„Üzleti 7", 16th December 2002)*

Hungarian Governments of the recent years, one after the other, tried to outdo their predecessors by planning to build even more motorways. On this issue there is a consensus among all the political parties of the Hungarian Parliament. At the same time more and more people question the rationality of these investments, but such opinions hardly gain any publicity.

Will motorways improve accessibility?

One of the main reasons usually brought forward to support the construction of motorways is that they will improve accessibility to the region concerned. Of course, if we only compare the time that cars, buses or trucks spend on the motorway with the time of travelling on parallel roads, this statement holds true in general. By viewing the matter in a wider context, however, we cannot arrive at such simplistic conclusions.

Available resources are very much limited, therefore the money spent on motorway construction has to be drawn from other areas of the transport sector, for example from the upkeep of the existing roads, from the operation of the public transport system, from the maintenance of the railway network and from the improvement of conditions for bicycle and pedestrian traffic. As a result, accessibility at the level of the society as a whole will deteriorate much more than it may improve by building motorways.

An overwhelming part of the traffic on motorways starts from and arrives to inhabited areas of settlements, therefore substantial extra traffic floods the roads of these areas. Consequently, motorways reduce access time between settlements, but in many cases they increase it within the settlements. In Budapest, for example, we can clearly see these catastrophic impacts: in the capital and its sorroundings several hundreds of thousands of inhabitants spend 20 to 30 minutes or even more extra time every day in traffic jams on the inlet sections of motorways and on access roads connected to them, while the alleged main goal of the motorway constructions

costing several hundreds of billions of forints is to reduce the access time of much fewer passengers by the same time at best!

Several other phenomena prove it, too, that in spite of its undeniable importance in many cases, accessibility should not be made a fetish of. In the last few years, for example, several hundreds of thousands of people have moved from Budapest to the neighbouring settlements, undertaking to spend even a couple of hours more time than earlier on travelling, just to ensure more pleasant living conditions for themselves and their families. This means that in this case, too, masses of people have given preference to a healthy living environment rather than to better accessibility.

It is unlikely that the export capability of enterprises in some regions of Hungary will be enhanced if access time is shortened by 10 to 20 minutes over the last 100 to 150 kilometres, while most of the Hungarian export goes to destinations at a distance above 1000 kilometres (Hungary's largest export outlet being Germany). In addition, trucks spend a much longer time waiting for crossing the borders.

Day after day we can read news about the Hungarian textile industry being smashed by the import of cheap products from the Far East. In the case of many other products, too, imports from countries at a distance of thousands of kilometres can efficiently compete, both in Hungary and abroad, with Hungarian products manufactured nearer to the place of destination by an order of magnitude (or by several orders of magnitude in some cases). All this gives further support to the argument that the 10 to 20 minutes of transportation time that may be saved by using the projected new motorways will not contribute practically at all to enhancing Hungary's competitiveness.

Strangely, the ministry responsible for transport also justified the construction of the M3 motorway by the need to improve accessibility, while for a long time it has rejected the recommendation of non-governmental organizations that the northern part of the M0 ring road's eastern section should ensure the shortest possible connection between the M3 motorway and main road No. 31. Instead of that, the ministry has been pressing for the road planned between Árpádföld and Csömör, which means a route longer than the former version by 20 kilometres on the M0 ring road between the M3 and M5 (and the M1/M7) motorways. (As far as we know, the ministry even today still intends to construct the originally planned longer version of the ring road first!)

Another move of the Government which is hard to explain is that if it truly thinks that it is important to improve accessibility (and to relieve settlements from heavy traffic) and that it should spend several hundreds of billions of forints on the construction of motorways in order to achieve these objectives, then why does it deter potential users of the motorways by imposing tolls? On the other hand we can raise the question that if motorways are indeed extremely important for passengers and transportation companies, then why does a significant part of the car and truck traffic (especially foreign trucks, the owners of which have a much higher income level than the Hungarian ones) avoid tolled motorways, and why do they use the parallel old roads instead, which go through towns and villages?

Accessibility has been deteriorating steadily in the last few years for those who want to reach their destinations by using public transport vehicles and bicycles, or going on foot (among other adverse effects this will further aggravate social tensions). At the same time motorway constructions draw away substantial resources, which could be spent on improving the conditions of public passenger transport, railway freight transportation, as well as bicycle and pedestrian

traffic. By following the latter course of action it would be possible to improve accessibility for much more passengers and enterprises in a much more cost-efficient manner.

Do motorways relieve congestion?

Motorways generate further road traffic, along with all of its negative impacts. This affects especially adversely the settlements, since most of the traffic moving along on motorways flows out from or ends up in inhabited areas.

Countless specific examples can be brought up to show that new road constructions only aggravated traffic problems, while cancelling projected road constructions did not worsen the existing situation, what is more, this forced out more rational solutions. The phenomenon has been known by transport specialists since as early as the 1930s.

- More than 60 years ago the following account was given about the effects of a new motorway built next to a town in England: „As soon as the new motorway was opened for the traffic, 4.5 times more motor vehicles travelled on it than earlier on the old road. At the same time, the traffic on the old road did not change at all." (Report on the impacts of the motorway built to relieve the traffic load of the inner area of Brentford, a town in England, 1939)
- A study prepared in 1963 on the request of the British Government (Traffic in Towns, HMSO) found that „Despite the advantages of newly constructed motorways, many Americans express their doubt about the motorway construction policy being the final solution. Every new motorway built to resolve the existing traffic problems has induced additional traffic, which brought about even more traffic congestion."
- The main reason to build the southern section of the M0 ring road around Budapest was to relieve the traffic load of the Budaörsi and Bocskai Roads leading into the city centre. The head of the Transport Department at the Mayor's Office in Budapest made the following statement about the results: „It is a fact that after opening the new section of the motorway, traffic on the Bocskai Road became less intense only for a few weeks, and soon afterwards the traffic jams reappeared." (Hungarian daily „Népszabadság", 31st January 1995) It is to be noted that the so-called South-Buda Relief Road has been built since then, but traffic jams have not diminished. There is an enormous volume of motor vehicle traffic on this road, on the Budaörsi Road and on the southern section of the M0 motorway as well, and in the case of the former two main roads (and the access roads connected to them) local residents have been protesting regularly against the severe environment pollution.
- The British Government set up a special committee (SACTRA: Standing Advisory Committee on Trunk Road Assessment) to investigate the issue. The committee is made up of renowned experts who prepared a study in 1994 (Trunk Roads and the Generation of Traffic) in which they definitely pointed out that new roads generate further, previously unexistant traffic. The study, and the increasing discontent of the public, compelled the British Government to take the majority of the proposed motorway constructions off their agenda.

There has been widespread research into the causes of the above phenomenon; and some have found the answers, too. In his study titled *Traffic as a Function of Supply and Demand*, Robert Morris from the US gave the obvious explanation: demand is dependent upon prices. If prices are low, i.e. it takes low costs and relatively short time (time is money) to travel along a certain road,

then we will in fact use that road. But, if the costs of getting to the destination (or the time required to get there) increase as a result of traffic congestion, for instance, demand for that road will decrease and less people will travel on that road. That is how demand and supply find an equilibrium.

In our days, too, the example of the industrially developed countries proves that not even the richest nations have enough money at their disposal to solve the ever increasing problem of traffic congestion through road construction projects. The United States of America is well supplied with motorways and high-speed roads, nevertheless the Americans spend a large part of their time in traffic jams. Some assessments estimate that the damage caused by traffic jams exceeds 100 billion dollars annually (Victoria Transport Policy Institute, www.vtpi.org). What is more, the situation is getting worse and worse. The investigations carried out by the Texas Transportation Institute (http://tti.tamu.edu/researcher/v34n1/congestion/stm) found that despite billions of dollars spent on road construction, in the large agglomerations of the USA the average time spent in traffic jams increased by 41 per cent between 1990 and 2000! And regarding the country as a whole, the time wasted by the average American citizen owing to traffic congestion has increased by 236 per cent since 1980.

The European Union is struggling with similar problems, even if the density of motorways is much higher here than in Hungary. The new transport policy of the European Union, adopted in 2001, says: *"Because of congestion, there is a serious risk that Europe will lose economic competitiveness. The most recent study on the subject showed that the external costs of road traffic congestion alone amount to 0.5% of Community GDP. Traffic forecasts for the next 10 years show that if nothing is done, road congestion will increase significantly by 2010. The costs attributable to congestion will also increase by 142% to reach EUR 80 billion a year, which is approximately 1% of Community GDP."* In the just following sentence the document identifies one of the chief causes of the problem*: "Part of the reason for this situation is that transport users do not always cover the costs."* (European Transport Policy for 2010: Time to Decide. White Paper, European Commission, Brussels, 2001)

If countries with much higher economic performance and national wealth than Hungary could not solve their transport problems by constructing motorways (in fact the problems have only been steadily aggravated), then it would be irrational to think that Hungary should follow the same course.

Constructing motorways is the most uneconomical mode to bypass settlements anyway, because along 80 to 90 per cent of the total length of motorways there are no towns or villages at all. (Exceptions are only the M7 motorway's projected section along the Lake Balaton and the M0 ring road around Budapest. Along the Lake Balaton, however, it would be amply sufficient to construct a new road with one lane in both directions, and as far as the M0 motorway is concerned, it is enough to build the eastern section in the direction of Gödöllő.)

Even if thorough assessments show that it is advisable to build a bypass road around a town or village, it is superfluous to construct a motorway: it is sufficient to build a short bypass road that relieves the inner areas of the traffic. And this has to be implemented in such a manner that all in all, the total road capacity in the affected area should not increase (that is, the transport carrying capacity of the roads within the settlement has to be reduced). Furthermore, the surrounding area affected by the new road needs to be protected from the increased environmental harm to follow by imposing appropriate settlement planning requirements (for example to prevent that new buildings and facilities be established there that generate even more traffic in the neighbourhood).

All the above clearly suggests that in most cases it is not the supply that has to be increased by constructing new roads, but rather the demand (the need for driving cars and for road freight transportation) has to be reduced by imposing appropriate taxes and charges, by traffic management methods, improvements of public transport and railway freight transportation, parking regulations, by supporting and enhancing local supply of goods and services, small and medium-sized enterprises, and by other means.

Building new roads versus maintaining the existing ones. Which one is more important?

Both from an economic and a traffic planning aspect it is questionable whether it makes sense to lead motorways to areas where the national main roads and the local roads (operated and maintained by local governments) alike are worn and are very much in need of repair. What is more, the disproportion is huge, of several orders of magnitude, because the total length of motorways is only a couple of hundreds of kilometres, while other national roads are 30 thousand kilometres long, and roads operated by local governments have an aggregate length of over 100 thousand kilometres.

Walter Hook, Director of the Institute for Transportation and Development Policy in New York stated the following on the issue: *"The World Bank is currently primarily interested in loans for 'rehabilitation and maintenance,' in the road sector, and is less interested in financing new road construction. The World Bank's position, which is consistent with their new Transport Policy, is that the current level of expenditure on new road projects, $75.42 million estimated in 1996, is too high relative to the modest $107.62 million spent to address the enormous backlog in needed maintenance and safety improvements. The Bank points out several studies which indicate that the current economic rate of return on road maintenance and safety improvements is between 20% and 60%, compared to an average ERR for new construction projects in Hungary closer to 20%."* (Walter Hook: Wheels Out of Balance. Suggested guidelines for intermodal transport sector lending at the World Bank. A case study of Hungary. Institute for Transportation and Development Policy. New York, 1996.)

Indeed, a publication on the new transport policy of the World Bank says: *„If roads fail to be maintained, it is self-destructing in two ways. First of all, it increases the costs to run motor vehicles. For instance, every dollar saved by not keeping a road carrying, let's say, 500 vehicles a day in good condition increases the costs of motorists using that road by 3.4 to 6.1 dollars. Second, an overall repair in every 10 to 20 years costs the country three times as much as continuous maintenance."* (Sustainable Transport. Priorities for Policy Reform. The International Bank for Reconstruction and Development / The World Bank., Washington, 1996. p.26) That is why the World Bank has not granted any loans since then for motorway construction projects in Hungary.

Traffic counts carried out in rural regions have found that due to the poor state of byroads, motorists rather choose much longer routes instead, often making long detours, to arrive to a specific settlement, placing thereby needless additional traffic load on the main roads.

Data of the ministry responsible for transport show that for the maintenance and renovation of the Hungarian national road network, available funds are only half of what would be necessary just to keep up their current state. As far as the roads operated and maintained by local governments are concerned, the situation is even worse than that in general. What all the above

means is that Hungarian roads and bridges, which constitute a substantial part of the country's national wealth, are deteriorating at an accelerating rate. If we go on like that, then Hungary will have a few hundred kilometres of new motorways, which will become less and less accessible...

What does the European Union require?

It is a misconception (although often asserted) that „constructing motorways is not only an autonomous economic policy decision, but also a requirement set for the EU membership, or even already a precondition of becoming a member of the Union." The documents of the EU reveal that in the development of the Hungarian transport infrastructure they would not give priority to motorway construction. According to the 1997 Regular Report of the European Commission *„Hungary probably will have to face a steady increase of the road transport, and will have to focus its efforts on using the railway transport and the inland navigation. This might encourage Hungarian authorities to change their current policy which concentrates primarily on road transport."*

In their letter sent to the European Federation for Transport and Environment in April 1997, the European Union's Transport Directorate General clearly pointed out that the Union *„has never made and will never make such a statement that Hungary can only join the EU if it builds motorways."* The letter written on behalf of the EU Transport Chief Commissioner, Neil Kinnock made it clear that a statement like that would not be in keeping with the Union's transport policy, which gives top priority to the protection of the environment.

It did not happen by chance either that the Union's pre-accession fund has only granted financial support for railway development projects so far, and just lately for the programme to strengthen road surfaces in Hungary (i.e. not for building new roads).

The European Union's above-mentioned new transport policy, among others clearly points out: „In order to maintain the current share of railways within the transport sector's division of labour, in the countries aspiring for EU membership, even more efforts are needed in the area of road transport to ensure the conditions of fair competition between different transport modes (...) in the aspirant countries the 35 per cent share of railways within the transport sector's division of labour has to be preserved until 2010."

It is true that the European Union has some plans within the framework of the Trans-European Networks (TEN) and the Transport Infrastructure Needs Assessment (TINA) for extending the Hungarian transport infrastructure, including the high-speed road network, to connect Hungary's main transport routes more strongly to those of the European Union. These plans, however, are not adequately elaborated and examined. No strategic environmental impact assessment has been carried out, and they failed to give careful consideration to the social and environmental aspects, and also to some structural factors of the network itself. Furthermore, the plans do not specify which transport subsector should be given preference when spending the available scarce resources in the years to come, although this appears to be evident from what was stated earlier.

Do motorways promote economic development?

In our opinion it is another popular misconception that motorways necessarily contribute to the development of the regions where they are built. The latest international research findings show that there is no evidence of such a correlation. One of the most renowned experts of the subject, John Whitelegg made a research over various regions of Great Britain in 1994. He found no correlation whatsoever between the economic development of the regions and towns examined, and their proximity to motorways. On the one hand, there were several cities easily accessible via motorways but still of poor economic performance and with a high rate of unemployment. On the other hand, there were numerous cities situated farther away from the motorways, and yet showing a relatively quick development. Birmingham, Liverpool and Manchester, for example, have excellent motorway connections, still they are the cities where the most unemployed and poor people live. Whitelegg says that motorway construction projects generally do not open up new job opportunities, they only rearrange the existing structure of jobs. When new motorways are constructed, companies tend to centralize their activities and they send their goods to longer distances to sell. The number of production sites of the five largest manufacturing companies in Great Britain went down from 1,260 to 856 over a ten-year period, whereas the production value per one site surged to more than 150 per cent. It was a process that had an especially adverse impact on the less developed regions of the country; jobs were closed down and local products were squeezed out of the market by goods from the economically more developed regions. (John Whitelegg: Roads, Jobs and the Economy, http://www.eco-logica.co.uk/GPRoadsJobsEconomy.pdf).

Another British expert, Merlin Hyman investigated six EU countries from the same aspect in 1995 and came to conclusions similar to Whitelegg's. (Merlin Hyman: The impact of accessibility to the road network on the economy of peripheral regions of the European Union. 1995)

The European Regional Research Institute (EURES) prepared a study titled „Economic Impact of Motorways on Less Developed Regions of the European Union" in 1996. It has also found the presumption that motorways are always beneficial for the development of a region wrong. Building motorways leading to underdeveloped regions produced an opposite effect in many cases: the qualified workforce left the area, the age structure of the remaining population changed unfavourably and local markets suffered major losses because they proved to be unable to compete with the overwhelming economic and political potential of the more developed „central" regions.

An international conference, „Roads and Economy", was held in Brussels in 1996 with the economic impacts of motorways in focus. In his closing speech, Gijs Kunemann, Director of the European Federation for Transport and Environment gave a summary of the presentations delivered by EU officials and independent experts during the conference. He concluded that no definite evidence could be found to support the belief that the construction of motorways brought about growth in the economy and employment of the regions concerned. (Roads and Economy. State-of-the-art report. T&E, Brussels, 1996.)

A recently published study of CPB Netherlands' Bureau for Economic Policy Analysis has established that the risk is particularly high in the case of small countries that the motorways they build will prove to be useless because they do not make any contribution to the country's economic development. (Richard Nahuis, Paul J. G. Tang: Strategic competition with public

infrastructure: ineffective and unwelcome? CPB Discussion Paper. CPB Netherlands' Bureau for Economic Policy Analysis, July 2002)

Findings of the latest SACTRA report

A new report of the already mentioned SACTRA committee, set up by the British Government, presents the opinion of the last 25 years' most outstanding experts on the subject. The SACTRA report has definitely refuted the theory that there is an automatic link between constructing high-speed roads and economic development. Enhancing the quality of transport does not necessarily bring about financial gains and new jobs for the country as a whole, or even for the region concerned. Even if such benefits do emerge, constructing high-speed roads is generally not the most economical way to attain them. (The report can be found on the home page of the British Transport Ministry: http://www.roads.detr.gov.uk/roadnetwork/sactra/report99/index.htm) The report has revealed that often it is not the quality of the roads which hinders development in an underdeveloped region, therefore improved transport will not necessarily create new jobs here. Even if new job opportunities do open up, in all probability this will take place in areas farther away, which are economically more advanced. Facilitating access to the markets of underdeveloped areas may have the consequence that large companies based elsewhere gain additional advantages. If that is the case, the construction of new roads, particularly motorways, in fact causes harm to local economy and employment in the regions concerned.

The SACTRA report has given answer to the following four questions:

1. *Will transport development, for instance new road construction projects, necessarily boost the economy?* The answer: No, there is no such automatic link, because everything depends on the specific features of the road; sometimes it is beneficial, and sometimes it hinders local economic development.
2. *Can economic growth and transport development be separated?* The answer: Yes. Eliminating market distortions (putting the prices right) would generally better improve economic efficiency in the transport sector than constructing new roads.
3. *Do the currently used evaluation methods realistically reflect economic impacts?* The answer: No, the currently used cost-benefit analyses are definitely wrong, and they presume perfect market conditions even in cases where nothing is further from the truth.
4. *Should the evaluation methods be changed?* The answer: Yes. Evaluation should be based on facts instead of taking the presumed free competition as a basis.

Professor Phil Goodwin, head of the SACTRA research programme, in his lecture delivered at an international conference titled „Sustainable Development in the European Union: Managing Transport Needs and Promoting Economic Growth" (Brussels, July 2001) pointed out that in the past, transport development had been regarded as a major driving force behind economic growth. In our days, however, rather the opposite is true: unlimited growth of transport may become a hindrance to economic development, for it is impossible to raise enough money to build up the infrastructure which is needed for the ever growing traffic. Therefore traffic congestion and environmental damage are becoming unbearable. Another commonly believed idea which is not necessarily true is that in order to raise production it is indispensable to increase the performance

of transport. As a good example for that, Professor Goodwin mentioned that in Germany the transport of food doubled over a period of 20 years, while the quantity of foods consumed did not change practically at all. (Not even the assortment of food expanded to such an extent which might justify a substantial rise in transport-intensity.) In Professor Goodwin's opinion it is possible and necessary to stop the growth of transport. And he listed some instruments, too, which may contribute to achieving this objective, placing particular emphasis on the necessity to incorporate the costs of environmental and other damage into the prices.

Should Hungary follow the example of Ireland or that of Portugal?

Dr. Károly Kiss, assistant professor at the Budapest University of Economic Sciences and State Administration has investigated the development of some EU countries and has come to the following conclusions (A luzitán csapda /The Lusitanian pitfall/. Published in „Heti Válasz", 25. 10. 2002.):

„...Ireland is the enfant terrible of the European Union. In the last two decades the Celtic tiger has shown the greatest development, the highest economic growth rate. In 1973, at the time of its accession, Ireland's per capita GDP was only 59 per cent of the European Community's average, whereas today it is already almost double the EU average, surpassing the per capita GDP of Germany, France, the Netherlands, Belgium, and even Austria. The total length of motorways in Ireland, however, does not even come to one hundred kilometres (!). There is no doubt about it that the country's spectacular achievements cannot be attributed to its dense motorway network (although it is true that being an island, maritime transport plays an important part, too).

Let us now have a look at a country which, like any good pupil, accurately followed and implemented the recommendations, and did its utmost to develop its motorway network up to the standard of advanced Western European countries. Newspapers have been resounding with triumphal reports about Portugal for many years. This relatively underdeveloped Iberian country became member of the European Community in 1986, and has been receiving huge financial support on a continuous basis from the Structural Funds already before its accession and since then, becoming one of the main beneficiaries of the European financial support system. Between 1989 and 1993 Portugal received 8.4 billion Euros, and between 1994 and 1999, 14 billion Euros. In the period between 2000 and 2006 a sum of 21 billion Euros is allocated to Portugal from EU sources. The volume of the transfers sometimes went up to as high as 3 per cent of the GDP. With a view to developing its infrastructure, Portugal spent most of these funds on spectacular projects of constructing motorways and shopping malls. (Besides these, other high priority development goals were: modernization of other branches of economy, regional development, education and urbanization.)

All these measures produced some good results: economic growth has mostly been quick, Portugal has come near the EU average regarding the level of per capita incomes, and it has become a net foreign investor. All in all, however, we take a negative view of the modernization in Portugal. The fiasco became evident when the Euro was introduced in the Union, because Portugal turned out to be the most expensive member state of the EU. Foods and consumer goods cost by 15 to 20 per cent more than in the neighbouring Spain, household energy prices show a similar ratio, while water supply and house prices are double the Spanish ones. On the

other hand the wages in Portugal are the lowest, and all in all the standard of living is by 45 per cent lower than the Union's average.

The situation is further aggravated by the fact that income differences are the biggest here.

Productivity in Portugal is the lowest within the Union, being even 30 per cent less than in Greece. Experts put the blame on the innovation-shy entrepreneurs and the inadequate educational system. This is true, surely, but it is also a fact that Portugal has not made a good use of the huge financial support it has received from the EU, or, what is even more embarrassing, that the Union's aid policy is wrong.

(...)

The law of Liebig, known from biology, can give us a good idea about what happened in Portugal. It is useless to stimulate a plant into growing by adding one type of nutrient in an extra portion. Plants can only utilize different nutrients in a given proportion to one another, and over-nourishment by one of them is just a waste. Minimal road network and accessibility via roads are, of course, needed, but doctrinaire infrastructure development is tantamount to squandering public funds. (...) Portugal's endeavours and efforts have been confined to constructing endless motorways, bridges and shopping malls."

„Classified" study on the M3 motorway

Commissioned by the Ministry of Environment and Regional Development, in 1997 Deloitte & Touche prepared a comprehensive study titled „Interrelation Between Economic and Infrastructural Development in North-Eastern Hungary, with Special Regard to the Social, Economic and Environmental Aspects of Constructing the M3 Motorway" about the possible impacts of the M3 motorway on the economy of the affected region. The ministry has never released this study to the public and has not organized any public debates about it. It cost a national environmental NGO, the Clean Air Action Group a lot of trouble and several months to obtain a copy of the study. We will quote some of the study's findings as follows:

"Without adequate measures taken by the Government, local governments and businesses, the direct impacts of the motorway in themselves are not capable of starting the desired and needed economic upturn in the region, what is more, the adverse impacts, which should be prevented, may even force the region further to the periphery."

"Unused alternative transport capacities are available, so transport into that direction does not constitute a bottleneck."

"The motorway in itself will not bring about an economic upturn, because for that it is necessary that several factors are present simultaneously, including the technical development potential, qualified labour force, appropriate educational institutions, innovation-orientated entrepreneurs and enterprises, financial infrastructure offering traditional and venture capital, telecommunications infrastructure, as well as an enterprise-friendly political and economic environment and public administration."

"The advantages of motorways may be perceptible and significant in the advanced countries of the West with the so-called „just in time" systems, widely used in the automotive, engineering, electronic, pharmaceutical and consumer goods manufacturing industries, where production is carried out by keeping very small stocks, enough only for a couple of hours, based on a reliable and accurate transport to short distances. Szabolcs-Szatmár county in the North-Eastern part of Hungary, however, has underdeveloped industries and infrastructure in the above- mentioned

sectors, and it is situated at a relatively long distance from the Western European companies, which give preference to production sites in the Western part of Hungary for supplies of this type. (And even from those regions they tend to use railway transportation; for example the Audi plant in Győr has this policy, too.)"

"By using the same funds for supporting investment projects instead of constructing motorways, it is possible to create by several tens of thousands more jobs."

"Extending the transport infrastructure in Hungary will put an end to the favourable situation, today already rarely found in Europe, that relatively large contiguous areas are unaffected by transport. Roads cut through the mobility paths of living organisms, the ecological corridors, and thousand-year-old gene exchanging connections are demolished as a result."

"It can be proved that the contaminants carried by transport processes are accumulating in the natural environment (...) For instance the situation is critical as regards soil acidification. Over a period of 90 years, the chemical reaction value of the agricultural soils of Borsod-Abaúj-Zemplén county in the North-Eastern part of Hungary has decreased by almost one whole pH value, and acidity on one-fifth part of the total area already exceeded the critical value, under which living organisms cannot survive in the soil, and thereby soil productivity diminishes, too."

"Development projects should only be based on and be proportionate to local natural and human resources, which can be developed in a natural way. Economic structure has to be in accordance with the framework of ecological conditions."

"In Borsod-Abaúj-Zemplén county, too, cities and small towns near the motorway may experience some economic benefits. But we cannot have any illusions as far as the mainly smaller towns and villages are concerned, which constitute the economic periphery today and will do so after the completion of the motorway, too. They will not have a share of the direct benefits of the motorway, while directly or indirectly they will bear a part of the investment's burden. It is to be expected that their backwardness will be reinforced, and as a consequence of that, migration of some of their population will start again."

"Experience shows that the order of magnitude of revenues from state taxes imposed by different titles and aimed at financing the road network (motor vehicle tax, consumption tax on fuels, etc.) is not enough for funding the construction of new motorways in the form of state investments. Even today, the Hungarian economy is overtaxed, and increasing further the tax burdens in order to raise the funds needed for developing the road network would induce most unfavourable processes in the economy as a whole."

"It appears to be a well-founded assumption that at present it is not difficult to find investment opportunities where greater profitability can be attained than with motorways (e.g. hotel reconstruction programme)."

„As far as the logical interrelation is concerned, the construction of motorways most directly influences economic development through the investment itself, and more specifically through the investment multiplier effect, which may be qualified as a dynamic effect of a rather limited duration."

"Through the demand it generates, the construction of the motorway has a favourable effect on the development of the connected services (restaurants, hotels, petrol stations, repair service shops, bank offices, shops and perhaps storage facilities, etc. to be established along the road). This is a local and/or settlement development impact, which covers a 2 to 10 km wide range along the motorway, but it has little regional development impact."

"In the case of the motorway in the Eastern Hungarian region there is no question of eliminating bottlenecks, because the towns and villages situated along the motorway have been accessible without the new road, too."

„Furthermore, there is no question of it that the motorway in the Eastern Hungarian region would improve the conditions of passenger and freight transport towards countries with which Hungary's foreign economic relations would expand dynamically, at least not in the short and medium run."

"The logical connection is proved by empirical studies, too, that considering the current state of the Hungarian economy, and particularly of the service sector, the time lost due to slower transport is not of such importance which would cause substantial losses economically."

"In the overwhelming majority of Hungarian enterprises, cost-sensitivity has not reached the critical level, where reduction of the travel and/or transportation time produces perceptible cost-saving and/or enhancement of profitability. This situation may be altered to some extent by improving market trends, though. Time-saving is of even less importance in the case of tourist passenger traffic and leisure time travel."

Research findings of the Hungarian Academy of Sciences

Within the framework of the strategic research programme titled „Hungary at the Turn of the Millennium" of the Hungarian Academy of Sciences, one of the studies analyzed the economic impacts of Hungarian motorways (Fleischer, Tamás — Magyar, Emőke — Tombácz, Endre — Zsikla, György: Strategic Environmental Impact Assessment of the Széchenyi Plan's Motorway Development Programme. Study of the Institute of Environmental Sciences of the Budapest University of Economic Sciences and State Administration. Series editors: Kerekes, Sándor and Kiss, Károly. Budapest, December 2001). We quote some paragraphs from the study as follows:

"National plans prepared at Government level declare principles which are close to the sustainability model. As we move from the theoretically environment-friendly ideas closer to specific development schemes which are to be implemented in practice, however, environment protection is being forced to the background, and another approach is becoming prevalent, that of an economic growth model characteristic of the developed countries in the 1960s and 70s. This can be illustrated by the fact that both the different transport development and regional development concepts and documents emphasize the need to lessen overcentralization to Budapest, to make the agglomeration less crowded and to reduce environment pollution, but in most cases the specific development schemes contradict these intentions.

In growth-centric economies the development of the transport system is subordinated to the need of economic growth. Building up the transport infrastructure, and particularly the motorways, to an appropriate density is regarded as the most important precondition of economic development. The investments themselves are used as forces to promote economic growth. Development only complies with minimal environment protection requirements, because development pressure allows nothing more than to implement less detrimental solutions — instead of good ones. The workings of the system bring about expanding needs, which generate further interventions. As a general rule, efficiency is considered to be important only in the short run. Growth-centric economies are not based on maintaining a balance with nature, but clearly on the principle «humans are more important than nature»."

(...)

*"The concept of **international high-speed road networks** is a dead end in the evolution of transport, because these networks just take over the functions which could be performed by **railways** more economically, with less environmental harm, less risk of accidents, less land occupation and less energy consumption. The reason why the more favourable version cannot still gain ground is because within the economic system such interlinked interests have been established worldwide (including also the short-term interests of consumers and employees, i.e. a kind of social support), which discriminate against the development of railways to favour road transport and the industrial and service sectors built upon that. There are no such political forces in power in the developed economies, which could stir up and tackle this complex issue, producing a negative impact on oil concerns, steel production, car manufacturing, road construction and services along the roads, all at the same time, and thereby causing an immediate shock to the economy as a whole. Environment-friendly proposals therefore can only be implemented in this respect if they can simultaneously ensure that capital and workforce are drained away to some other area of the economy."*

(...)

*"From the tourism development programme we highlight two issues. One of them is related to the phenomenon that as regards the number of tourists visiting a country, Hungary is in the 14th place in the foreign tourist traffic of the world, while regarding earnings from this tourist traffic, it is only in the 38th place. This indicates that **the absorbing capability of the Hungarian tourist industry is much lower than its physical capacity. What is urgently needed here, is obviously not to increase further Hungary's tourist capacity. On the contrary, satisfying the needs of perhaps less tourists, but at a higher standard, may help retain them in the country and thereby attain a greater share from tourism revenues.** This issue, by the way, may be linked to the need to develop internal points of junctions and their connection systems (we do not only refer to physical points of junctions here), because richness and density of connections can be regarded as one of the main factors to enhance the absorbing capability."*

(...)

"Possible link between motorways and economic activities may be shown by data related to those counties within Hungary, where motorways have already existed for some time. The assessment's starting point is 1991, the year following the change of regime in Hungary, because earlier the allocation of investments had been determined by other considerations (central will and decisions, owing to the predominance of state ownership). The assessment is slightly modulated by the fact that impacts of the economic recession were felt in the first few years of the period under consideration, and therefore the analysis had to be based primarily on the relative discrepancy existing between different counties. We have not assessed Győr-Sopron county, near the Western border of Hungary, because development there was mainly influenced by another factor (the proximity of Austria). In the time series the first year to take unemployment into account was 1992, because in 1991 the effects of the earlier full employment policy were still present (with a national unemployment rate of 2 per cent)."

Some economic data of Hungarian counties having motorways

County	*Unemployment rate (per cent*			*Net earnings of employees (HUF)*			*Value of investments per one inhabitant (HUF*		
	1992	*1996*	*1999*	*1991*	*1995*	*1999*	*1991*	*1996*	*1999*
Komárom	*11.5*	*11.5*	*9.4*	*12 774*	*25 548*	*46 307*	*61 483*	*130 485*	*206 018*
Fejér	*9.9*	*9.0*	*7.9*	*12 611*	*26 956*	*50 387*	*31 138*	*116 188*	*212 890*
Heves	*12.6*	*12.8*	*12.1*	*11 453*	*24 835*	*44 533*	*21 126*	*63 907*	*201 961*
Bács-Kiskun	*13.3*	*10.3*	*10.1*	*10 865*	*23 557*	*40 990*	*21 051*	*58 731*	*96 285*
Average of Hungary	*10.1*	*10.8*	*9.6*	*12 385*	*26 637*	*49 858*	*31 933*	*92 224*	*182 448*

"Analysis of the above data does not allow far-reaching conclusions. Among counties with motorway connection, for example in Bács-Kiskun county, unemployment decreased at a significantly higher rate than the Hungarian average, but net average earnings and per capita investments increased by less than the average (especially the investments fell behind the average). In Heves county the growth rate of investments is very high, and the situation is similar in Fejér county, but there unemployment, too, fell by more than the Hungarian average. In the case of Fejér and Komárom counties, motorways can be considered as an existing feature already at the beginning of the period under consideration.

All in all, ***no definite evidence could be found to suggest that motorways have an economic development impact****. In the regions concerned, some indicators have been more favourable than the Hungarian average, whereas others have been similar to, or poorer than the average.*

The picture obtained is further modulated by the fact that naturally, the assessed counties are situated closer to Budapest, which may have two essential aspects. One is that owing to the relatively short sections of motorways, substantial time-saving cannot be expected at all, because on a 60 to 70 km long travel all you may gain in time is a mere couple of tens of minutes. The other aspect to be considered is that the attraction of Budapest may manifest itself stronger in the number of people commuting to work there. This is probably the case when lessening unemployment is not coupled with a perceptible rise in the value of investments. We may suspect such development primarily in Bács-Kiskun county.

Consequently, regarding the development of the high-speed road network connecting distant areas of Hungary, we cannot draw definite conclusions either pro or contra. ***On the basis of the experience gathered up until now, it cannot be justified that motorways play an economic development role, but at the same time it cannot be proved either that a high-speed road network built to greater distances to reach less developed regions will not have such impacts****."*

More facts about the impacts of the already constructed Hungarian motorways

Data shown in the table below question even more the alleged favourable economic impacts of motorways.

Data on economic activity in some Hungarian counties with and without motorways

County	Activity rate in 1999	Unemployment rate in 1999	Activity rate in 2001	Unemployment rate in 2001
Komárom	54,4	6,6	57,3	4,8
Fejér	56,4	6,0	57,3	4,8
Heves	49,8	8,7	50,8	6,6
Bács-Kiskun	53,6	6,4	53,9	6,4
Vas	59,8	4,7	60,4	4,1
Zala	57,1	5,1	57,9	3,3
Average of Hungary	53,1	7,0	53,3	5,7

Source: Yearbook 1999 and 2001 of the Central Statistical Office of Hungary

In Vas and Zala counties, where there are no motorways, the activity rate is much higher and the unemployment rate is lower than in the listed four counties having motorway connection.

Experience gathered from elsewhere also show that the economic impacts of the already existing Hungarian motorways are not evident. In Hungary two car manufacturing companies (!), Suzuki and General Motors, had located their plants into areas which are relatively far from motorways. And the example of the third car manufacturing plant in Győr, North-Western Hungary, of Audi (the largest foreign investor and exporter located into Hungary) is a spectacular refutation of the alleged close link between motorways and investments. Although the production site is situated next to a motorway, the company uses almost exclusively railways for its transportation needs.

Situated next to two motorways (M7 and M1) and a high-speed road (M0), Érd still belongs to the group of relatively disadvantaged settlements. Pest county, the region embracing the capital, is where the most motorways lead through, and yet it is not among the economically most developed counties of Hungary. Budapest, situated at the junction of all motorways, is undoubtedly far above the Hungarian average in terms of economic performance, but the economic development impact is not radiating out from there over the county's whole area; on the contrary, the capital is rather draining away useful energies from the region's disadvantaged settlements, reinforcing thereby the inequalities. At the same time it can be regarded as a warning sign that in the history of Budapest, except for the periods of wars, such deterioration of the inhabitants' health condition has never been experienced, and so many of them have never fled the city, as in recent years. (Statistics prepared by the National Korányi Tuberculosis and Pulmonary Institute show that cases of bronchial asthma increased by 150 per cent, and cases of lung cancer doubled between 1990 and 2000 in Budapest. The population of Budapest has gone down by 300 thousand in the 15 years between 1988 and 2003, and opinion polls show that hundreds of thousands of people are considering moving out of Budapest because of the heavily

polluted environment.) All these phenomena are closely linked to rapidly expanding motorization, including the use of motorways.

The Hungarian press regularly reports that the construction of new motorways makes a substantial contribution to the economic development of the regions concerned. Such an account was given, for example, by a front-page article published in the Hungarian daily „Magyar Nemzet" on 1st August 2001, under the title „The M3 motorway has created new jobs". Having read the article, however, it becomes evident that as regards boosting the economy and creating new jobs, the construction of the motorway in fact proved to be a perfect fiasco. The article claims that thanks to the M3 motorway, one thousand new job opportunities have opened up. In the case of this investment project of the value of about 100 billion HUF, this means that creating one new job cost 100 million HUF. There are several economic branches in Hungary, where one hundred times as many new jobs can be established from the same amount of money. In addition to that, it has to be taken into account, too, that the construction of motorways will result in closing down jobs at the level of the national economy, because they draw away substantial funds which could be utilized much more efficiently in other fields, ensuring employment for much more people. Therefore it is clear that „job creation" through motorway construction is tantamount to squandering enormous quantities of public funds.

We can also read in the article that thanks to the motorway, the town Hatvan today already accounts for one-fifth part of the total sales of Heves county, and for one-third of all of its exports. But the truth in this statement is questionable. Firstly, due to the excellent railway connection, some part of the exports is transported by rail. Secondly, in many parts of the county a recession is likely to take place or at least the development is slowing down, because Hatvan is draining away resources from there. Therefore at the level of the national economy, the motorway does not further economic development, it only modifies its spatial distribution — unfavourably. This is extremely detrimental for the Hungarian society as a whole, and is fundamentally contradictory to the expectations of the European Union as well, which aim to reduce the socio-economic differences between the various regions.

It was not accidental that Jack Short, Deputy General Secretary of the Conference of European Transport Ministers, replying to a question in connection with motorway construction in Hungary, stated that *„sometimes the role of transport investments in promoting economic growth is exaggerated (...) I think that the development of the Hungarian economy depends much more on other factors than on the development of the transport infrastructure."* (See in issue 1996/3 of „Lélegzet")

Environment-friendly motorways?

The construction and use of motorways cause substantial environment pollution. An enormous quantity of construction materials is used to build one kilometre of motorway, and as much energy as would be consumed by one motor car travelling 20 million kilometres. Along both sides of the motorway, 6 km wide on each side, a „tunnel" of polluted air is formed. But this air polluting effect damages above all the health of those travelling in the motor vehicles, because they inhale the exhaust gases from the vehicles in front of them almost directly.

During the construction of motorways a lot of vegetation is destroyed. Motorways, as almost impassable barriers, cut apart habitats. Directly along the motorways the soil and vegetation are

severely contaminated, therefore cultivation of plants for human consumption should in fact be banned in a range of 200 metres on both sides.

As mentioned above, motorways generate considerable additional motor car traffic, which causes substantial damage to the environment even farther away from the motorways.

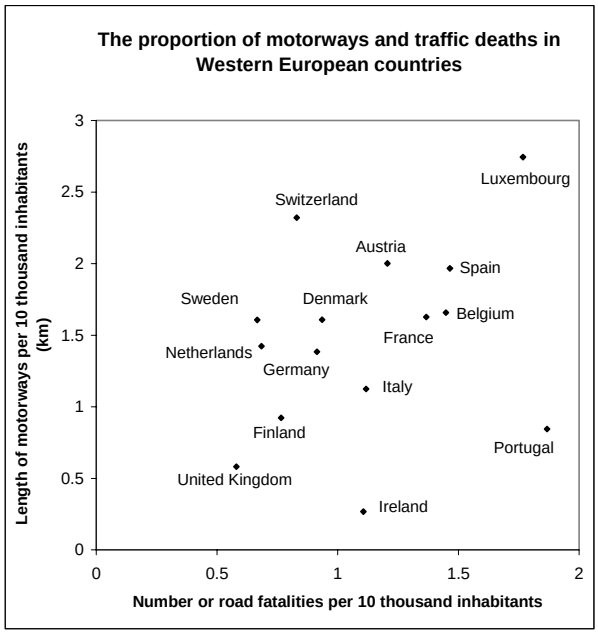
Taking a broader view, it can be said that according to our scientific knowledge today, humankind cannot continue for more than one or two decades its current practice of exchanging 600 million motor vehicles for new ones every 10 to 15 years. Nor can it emit into the atmosphere the combustion products of as much coal, petroleum and natural gas annually as had been formed in the depths of the earth over hundreds of thousands of years. Therefore constructing motorways means investing several hundreds of billions HUF into an infrastructure that will most probably become superfluous within 15 to 20 years. This reason alone should be amply sufficient to put an end to the construction of motorways.

Constructing motorways to improve traffic safety?

It is not true that the number of road accidents falls when a new motorway is opened. Professor Hermann Knoflacher, Director of the Road Construction and Transport Research Institute at the Technical University in Vienna said: „*There are several reasons to deny that assumption. First of all, road accidents are measured by the vehicle-kilometre ratio, which allows the idea that there are less accidents on the motorways than on any other road. However, this ratio disregards the fact that there are far more vehicles travelling at a much higher speed on the motorways than on other roads, and therefore there are more, and more severe accidents on the motorways than on roads carrying less traffic. Furthermore, it is becoming an established principle of transport that new roads generate more traffic as a rule. When a new motorway is opened and vehicles start to use it, it has only a temporary impact on the roads from which the traffic was planned to be diverted. After a short while, there will be as much traffic and as many accidents on the old roads as earlier, and it is only topped by the number of accidents on the new motorway. New motorways also generate traffic on the access roads and in towns and villages nearby. All in all, the situation gets worse.*

Even if we assume traffic calming measures are introduced on the roads to reduce the harms of the motorways, motorways themselves are not the solution to the problem all over the country. Motorways go along only a few number of towns and villages, therefore they have no impact on the traffic on other parts of the national road network. Cost-efficiency is another pivotal issue in the development. Billions of forints are spent on building short sections of motorways that have direct access to only a few towns and villages, whereas many communities lack the funds to improve the safety of local transport by reconstructing existing, dangerous sections and junctions for a few million forints. I, myself have been to Hungary several times, so I can speak from first-hand experience." (See in issue 1999/1 of „Lélegzet")

Experts of the Clean Air Action Group (Hungarian environmental NGO) have recently found an interesting correlation. For 15 Western European countries they calculated the length of motorways per 10 thousand inhabitants, and the number of people deceased in road traffic accidents per 10 thousand inhabitants. The link between the two factors is illustrated by the figure below. The result is shocking: **the greater the total length of motorways is in a country, the more people die on the roads!**



Source: Own calculations based on data of the International Statistical Yearbook 2001 of the Hungarian Central Statistical Office, and of issue 2002/2 of the Bulletin of Road Management Technical Literature. Data refer to years 1998, 1999 or 2000 (we used the latest available data for each country).

This correlation holds true for the majority of the countries examined. Significant deviation can only be seen in the case of Switzerland and Sweden (and the Netherlands to a lesser degree) on the one hand, and in the case of Ireland and Portugal on the other. It is well-known that in the first two countries extremely great care is taken to improve traffic safety. (The Government of Sweden, for example, adopted a programme in 1997 aiming at achieving that no fatalities and no serious injuries occur on the roads of the country at all!) And in the latter two countries there are more problems with the general traffic morals than elsewhere.

The experts did not have an opportunity to assess other factors which may influence the established correlation. Even so, the result shown in the above figure is worth considering.

Motorways or railways?

Although it needs major repair and improvement, the technical base of rail freight transportation is available in Hungary and all over Eastern Europe. The road network, however, is in general poorly developed, particularly in the countries east of Hungary. Therefore it would require additional capital investments of several hundreds of billions of Euros to join the Eastern European region into the Europe-wide road network, which does not seem to be financially feasible in the foreseeable future. Thus, the scope of any transport policy in Hungary is fairly restricted; the railway network, after significant improvement, should be the base of transport between the EU and Eastern Europe to meet the interests of Austria and Germany, which are in line with the interests of Hungary as well. Compared with roads, railways have particular

advantages in transporting large volumes of goods to long distances — i.e. just in the area of transportation which is mainly served by motorways among all the roads. The already mentioned new EU transport policy declares: *„Rail transport is literally the strategic sector, on which the success of the efforts to shift the balance will depend, particularly in the case of goods."*

Competitiveness of railway freight transportation is also proved by the huge development it achieved between 1990 and 1997 in the United States of America. The share of the environmentally more favourable rail transportation increased from 37.8 per cent in 1990 to 39.4 per cent in 1997 (calculated in freight ton-kilometres). At the same time the portion of road freight transportation rose from 25.5 per cent in 1990 to 29.1 per cent in 1997. It is noteworthy, how the volume of rail transportation rose: its performance of 1,591 billion freight ton-kilometres in 1990 surged to 2,072 billion freight ton-kilometres in 1997. This means that in the period under consideration, the volume of the increase alone amounted to 481 billion freight ton-kilometres, which is more than double the European Union's total yearly rail freight transportation performance (237 billion freight ton-kilometres in 1997). We have to underline that from the time of the setback in the middle of the 80s up until 1997 the rail freight transportation performance rose by 528 billion freight ton-kilometres in the United States. This demonstrates a substantial price advantage for the railways in the market competition of rail and road freight transportation, despite that in the USA the external costs are even less incorporated into the prices than in Europe (fuel taxes are much lower).

Is it worth increasing Hungary's indebtedness?

Another reason why the present Hungarian transport policy is fundamentally mistaken is because it wants to take up further loans in order to implement the extension of the road network, which will increase the country's indebtedness.

New roads should only be built to the extent of additional revenues (especially in foreign exchange) from road users, so that Hungary can avoid increasing its foreign debt. Accordingly, pertinent taxes and charges imposed on road users should be fixed at such rates that their total amount meet this requirement. (Whereas today, for example, hidden subsidies granted to trucks exceed 250 billion HUF annually.)

Extending the road network is an extremely capital-intensive investment activity. Constructing one metre of motorway costs 1.3 to 2 million HUF, and it has a very long pay-back period. (In many cases most probably such investments never pay back the invested capital.) What is more, these investments draw away resources from other areas of the economy, and so they are slowing down economic development.

What is the driving force of modern economies?

John Whitelegg's above mentioned researches have also demonstrated that in the past, when highly raw material-intensive and energy-intensive sectors were the driving forces of the economy, transport costs were much more important for the companies. But the situation has changed radically, and today economic development is already determined by the flow of information, technologies, thoughts and innovation. Whitelegg found that when locating their companies, business executives first of all consider the following factors (in addition to financial

and other preferences granted by authorities): highly qualified workforce, advanced information technology systems, proximity of high standard educational institutions, healthy environment, abundant cultural and recreational opportunities.

Heads of state and prime ministers of the European Union on their summit meeting in March 2000 in Lisbon set the goal to create the world's most competitive and most dynamic knowledge-based economy by 2010. The final statement of the summit meeting says that if Europe wants to maintain its competitiveness in the new, knowledge-based society, it has to take action now, because in a few year's time this will become very costly, if at all possible. In order to achieve this, investment should be primarily directed into human resources: among others, by increasing substantially the amounts allocated for the enhancement of education, training and public health (See http://europe.eu.int/information_society/newsroom/documents/catalogue_en.pdf).

The Government of Hungary has the same declared objective: *„The government will implement a turnaround in order to create the conditions needed for the socio-economic modernization and for a knowledge-based society. The government will accomplish a turnaround in education and training, which constitute the base of modern society, and in its approach to culture, information technology, science and innovation. The government's programme is centred around creating a knowledge-based society. Every individual can be sure that during the whole of their lifetime, Hungarian society will keep providing them with high-standard support for their studies and intellectual development."* (Programme of Péter Medgyessy's government: „To take action, now and for everyone!" Programme of the Government of the National Centre, the democratic coalition. Hungary 2002—2006).

Accordingly, Hungary should focus its limited resources upon this task, instead of granting support to the extremely energy- and raw material-intensive road transport and to the construction of motorways, which generate further road traffic.

Budapest, 2003

Translated by Zsolt Jeney