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Traffic Policy  
Review  
U. D. C.: 656.01:65.012.3(439)  
Accepted: Jul. 5, 2005  
Approved: Sep. 6, 2005

## SITUATION AND PERSPECTIVES OF INTERMODAL LOGISTICS IN HUNGARY

### ABSTRACT

*Logistics has become one of the determining factors in Hungarian economic policy. This is supported by the fact that logistics has been included into the key programmes of the 2<sup>nd</sup> Hungarian National Development Plan. Intermodal logistics services belong to the most important instruments emphasised by the Hungarian transport policy. Although there have been several improvements in the field of logistics centres and combined transport the national intermodal logistics network cannot be regarded as finished yet. That is why additional investments are needed. However, the new developments shall be supported by updated strategic conceptions taking into consideration the current and future trends in technology and economy, with special regard to changed conditions coming from joining the EU. This paper aims to analyse the national and international background of intermodal logistics strategy improvements and furthermore to draw conclusions on the possible development directions applicable for specific Hungarian circumstances.*

### 1. ROLE OF INTERMODAL LOGISTICS IN EUROPEAN AND HUNGARIAN TRANSPORT POLICIES

In the European Union the topic of intermodality has a relevant role in recent transport policy (white paper). This document negotiates the possibility of connections between transport modes within the modal split of transportation. One of the preferred topics is building of „highways on the sea” (to exploit better the possibilities of shipping), which is in Hungary – from geographical aspect – not a relevant alternative. However, in the planning of the domestic logistic network we should consider the relations to/from maritime shipping ports as potential (inland shipping and railway) routes of flows for combined transport.

The transport policy of EU declares that in the future R&D of intermodality should lead to the integration of relevant subsystems. The critical technologies of vehicles and terminals, the telecommunications, the connections and the economical control must be tested on real systems, with the synchronisation of

technical parameters. For this procedure – to have a real effect – one should make appropriate conditions for the improvement of transport integrator as a profession and the standardisation of cargo units.

The EU transport network bottlenecks should be eliminated by intermodal transportation. It is declared that investments for gradual development of the priority of freight trains, or the Trans European Corridors just for the freight trains should be preferred, particularly for the railways to the harbours and terminals that are also bottlenecks. The white paper mentions among the new priority projects the Easter-European high speed railway and the development of combined goods transportation. The EU started a wide-range program (Marco Polo) to aid intermodal initiatives at the beginning, until they become feasible.

The development of logistic service centres, linked combined terminals and combined transport technology are organic parts of the current Hungarian transport policy.

In the program of developing transportation three subprograms are involved in intermodal logistics. In the “Sustainable Development” subprogram preferring environmentally friendly transportation modes, combined transportation is mentioned as an influencing instrument for sustainable development of the transport policy. “The improvement of quality and the exploitation of current transport systems” subprogram emphasises that before generating new capacities we should aspire to increase the efficiency of the current transport systems, among these the synchronisation of road, rail, and inland shipping. “The missing infrastructure elements” subprogram emphasises that development of transportation has a really important point, the development of interfaces between different transportation modes. For that reason the terminals are important elements of development of interfaces in goods transport, and especially preferred – in environmental and economic political ways – are the multi modal transportation systems and multi modal terminals.

The transport policy emphasizes that building of logistic centres should be carried out in a market-ori-

ented way, the task of the state is just building the basic infrastructure. In the field of combined transportation the experienced improvement of the last decade is kept or improved by the Hungarian regulation – harmonised with EU directives – by allowing and preferring the domestic combined transport.

## 2. INTERNATIONAL TENDENCIES IN INTERMODAL LOGISTICS

The EU goods transport surveys – carried out among market players – resulted in the following limits in the field of intermodal transport:

- lack of solutions for Pan-European combined transport;
- intermodal transport technologies cannot be integrated into state-of-the-art logistic systems (due to long transmission time, lack of door-to-door transport, strict timetables);
- lack of confidence for the services of combined transport modes (relatively low reliability, monitoring and safety);
- high costs of goods transmission and handling;
- difficulties in international and transit transport (incompatibility, lack of cooperation and connection points, too complex responsibility and contraction relations).

From the parameters above, the most significant are the low degree of fitting into the logistic systems, the lack of Pan-European services, the unclarified responsibilities, and only after these are the high costs mentioned as a disadvantage.

Beyond lots of obstacles and problems there are more and more tendencies helping intermodal transportation to expand and become stronger and stronger. The trends below are the most significant:

- environmentally friendly strategies have become more and more popular as important parts of company strategies;
- due to solid expansion of procurement and concentration of production and storage, transport distances are growing in international transport;
- the supply systems based on hub & spoke and break-bulk technologies are capable to consolidate goods flows;
- most of transported goods – when possible – are unified (most of them in containers);
- time losses in road transportation, the gradually introduced tolls and crowded transit corridors are leading to decreased competitiveness of road transportation in mid- and long term period, which leads to the increase of interests in alternative transportation.

The logistic suppliers are required to demolish the obstructive parameters identified, furthermore, to take advantages of the offered market opportunities with adequate intermodal strategy of service improvements. These are the transport integrators mentioned in the EU white paper who are able to transport the whole cargo door-to-door, and choose the most efficient and environmentally friendly way of transportation.

The tasks of transport integrator include all the activities related to goods transportation: choosing the carrier, signing the contract, preparing the goods for transport, documentation, controlling the transportation procedures. Naturally, these are not to be done alone by the integrator: the integrator can use other service providers, but the integrator is responsible for the whole transportation process. It is also important that the client should have contracted contact only to the integrator to have easier administration and to have a more attractive complex service.

When an integrator chooses or combines the transportation methods, they should do it neutrally, without previous commitment. The most important parameters are the efficiency ratio and the sustainability criteria. This means that the offered alternatives are valued not just by CBA (costs, discounts, elasticity), but by FS (accuracy, availability) and by environmental and social views (externalities). The comparison of the above mentioned parameters leads to the ultimate decision.

The analysis of service levels among potential integrators showed that the most important working area is transportation, logistics, distribution, and storage. In the near future the situation will probably be modified by the strengthening of value added services. From these the most important are the information-service supply elements – for example: real time tracking & tracing, EDI.

## 3. CURRENT SITUATION OF INTERMODAL LOGISTICS IN HUNGARY

In Hungary in the market of logistic services – following the international trends – complex, differentiated system is evolving. The limits of the service palette range are the small storage centres or the international logistic service centres: most of lower levels have already been realised while higher levels are in the process of being realised. Intermodal logistic centres with their inland shipping and railway connections help spreading the environmentally friendly transportation methods, and they are green-field investments in unused territories so they assist the optimal land usage, too.

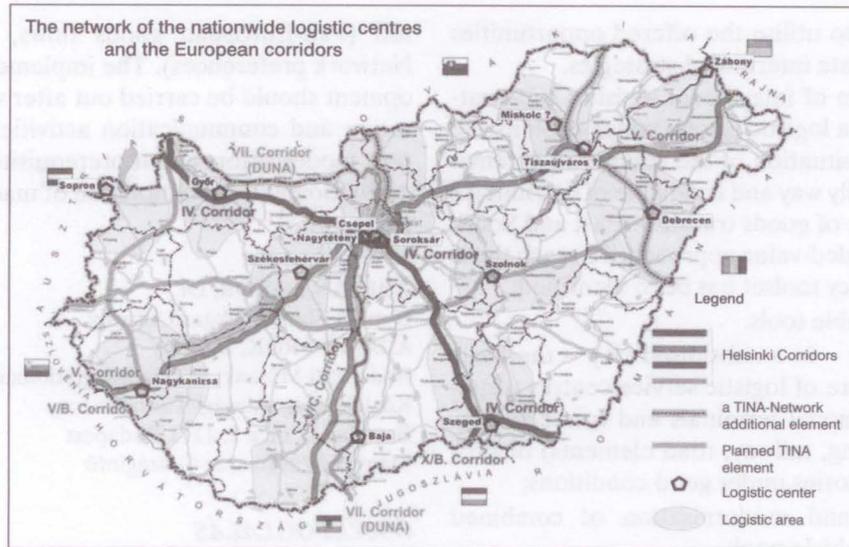


Figure 1 - Logistics regions and intermodal centres in Hungary

In the Hungarian network, the logistics centres – sorted by their significance – can be categorised into three different levels:

1. nationwide logistic service centres built on railway-road or even better by railway-road-inland shipping connections (intermodality is essential);
2. regional centres perform transport-distribution tasks at a lower level (the rail connection is not established, etc.);
3. there are other service elements on the network helping to provide a full service system.

The basis of the partly working network are the national logistic service centres which are being improved continuously. The speciality of network is that in some cases it can be virtual, which means that some of the centres can be established on several locations served by appropriate IT background.

The Ministry accepted the concept of the development of national intermodal centres in 1998. The regularly updated concept includes 11 regions and 13 national logistic centres (Figure 1), which are being continuously developed, but – because of the different levels of building status and the quality/quantity of the provided service – up till now just some of them can be considered as fully functioning.

The result of successful application of combined goods transport in Hungary – launched in 1992 – is that approx. 7100 tons pollutant emission has been cut back on or not emitted into the environment. Due to trucks being transported on railway or by inland shipping the environmental impacts have been decreased, which resulted in lower noise levels, abrasion, accidents and fuel consumption.

The latest national combined goods transport tendencies (2004) are the following:

- Ro-La transportation (trucks transported by trains): the trains transported 79,100 trucks (22 %

decrease as compared to 2003). Ro-La does nearly 10% of international road transport. The transport volume has decreased in the last years because of the EU accession and because of the goods transport liberalisation;

- non-accompanied traffic (containers, semi trailers, swap bodies transported on railway): in this system 5.1 million tons in 303,400 units (9% and 1% increase as compared to 2003) have been transported. Non-accompanied traffic constitutes about 10% of the total traffic of the national railway company (MAV), but more than one-third of GYSEV Rt. (a smaller Hungarian-Austrian railway company) per year. Transport volumes show a changing but increasing trend;
- Ro-Ro traffic (containers, semi trailers and trucks transported by ships on the Danube): by this method 20,800 units were transported (95% increase as compared to 2003). The transport volume suddenly increased last year after the decrease experienced in previous years.

#### 4. DIRECTIONS OF DEVELOPMENT IN INTERMODAL LOGISTICS WITH SPECIAL REGARD TO HUNGARIAN CIRCUMSTANCES

Hungary has a very good geopolitical status: common borders with several countries, four Trans-European corridors, more than any of the neighbouring countries. It has special opportunities for the transit traffic to Balkan and Middle-East, while to these destinations Hungary represents “the gate of EU”. These opportunities nowadays – when logistics has greater and greater significance all over the world – can be the starting points of further developments. That is why it

is very important to utilise the offered opportunities by applying adequate intermodal strategies.

The overall aim of intermodal logistics sub-strategy is to establish a logistic system which exploits the good geopolitical situation of the country in an environmentally friendly way and is capable of becoming a distribution centre of goods transit to East and South Europe with an added-value approach. To reach these aims, the next policy toolset has been identified:

1. directly applicable tools:
  - building up – in a subsidised way – the basic infrastructure of logistic service centres (especially intermodal terminals and connected inland shipping, railway, road elements) or providing territories under good conditions;
  - expansion and modernisation of combined transport vehicle pool;
  - EU standardised subsidies in the combined transportation (until the introduction of a toll-based system based on social costs);
  - preferring the road transportation connected to combined transportation (lower taxes/tolls, admission alleviation);
2. tasks to be tackled in international framework:
  - active intermodal marketing/promotion;
  - standardisation, harmonisation:
    - intermodal transport units;
    - contract conditions, documentation, responsibility relations;
    - exchange of information, data models/bases;
    - training methods, working requirements;
3. necessary additional developments:
  - development of rail infrastructure and free access to it, improvement of the conditions of alternative solutions provided by rail (or inland waterway) transport and efficient use of infrastructure capacity;
4. long term solution packages:
  - internalisation of externalities, use of unified transportation tolls based on the usage which leads to choosing transport modes based on the real costs;
  - stricter measures in the field of environment protection, technical and social control in goods transport.

Pre-evaluating the development demands it can be stated that one part – especially the fulfilment of monitoring and harmonisation tasks – can only be done in the frame of international co-ordination. Here, domestic policies should play receiver or adapter roles to local conditions. In other cases – for example in the case of the priorities of logistic infrastructure development – domestic policy can be initiative, but it should pay attention to the international connection points,

too (Pan-European goods flows, Trans-European Network preferences). The implementation of development should be carried out after wide-scale preparation and communication activities between transport modes/actors and it prerequisites also the sound evaluation and contemplation of macro economic impacts.

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## ÖSSZEFOGLALÁS

### AZ INTERMODÁLIS LOGISZTIKA HELYZETE ÉS PERSPEKTÍVÁI MAGYARORSZÁGON

*A logisztika a magyar gazdaságpolitika egyik meghatározó elemévé lépett elő napjainkban. Ezt jelzi - többek között - az is, hogy a témakör a II. Nemzeti Fejlesztési Terv kulcsprogramjai közé is beemelésre került. A logisztika közlekedéspolitika által hangsúlyosan kezelt részterületét alkotják a közlekedési (szállítási) alágazatokat összekapcsoló intermodális logisztikai szolgáltatások. A téma aktualitását különösen indokolja, hogy a hazai logisztikai és kombinált szállítási hálózat kiépítése - bár vannak kézzelfogható eredmények - csak megkezdődött, korántsem tekinthető befejezettnak. A fejlesztés folytatását viszont meg kell, hogy előzze a jelenleg érvényben lévő stratégiai koncepciók - mostani és prognosztizálható társadalmi, gazdasági és technológiai körülmények függvényében történő - felülvizsgálata, aktualizálása, különös tekintettel a hazánk EU csatlakozásával járó, korábbiakhoz képest megváltozott keretfeltételekre. A szerzők a közlekedéspolitikába illeszkedő stratégia-korszerűsítés hazai és nemzetközi hátterét elemzik, majd összefoglalják a fejlesztési irányok meghatározására vonatkozó általános javaslatokat.*

## KULCSSZAVAK

logisztika, intermodalitás, közlekedéspolitika, stratégiaalkotás

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