1 Introduction

South East Europe is a wide area of Europe which, in this article is considered as extending from Italy and Austria to the west to Turkey and the Black Sea in the East, and from Slovakia and Rumania in the North, to Cyprus and Crete (Greece) in the South. Two of the "hottest" issues concerning the transport situation in this area are considered by many to be the development of a coherent network of transport infrastructure compatible, and in essence forming extensions, to the EU’s TransEuropean Networks (TENs) and the development of intermodal transport. As three of the TENs are road, rail, and intermodal networks these issues are of paramount weight to the future accession countries (i.e. countries which started negotiations for entry to the EU) but also to all countries in the area as all are practically under a pre-adhesion regime, or aspire to join such a regime in the near future.

The first guidelines for the development of the TransEuropean Transport Network (TEN) were established in 1994 (paper COM (94) 106) and sent to the Council and European Parliament in April 1994 where they were approved the same year. The real significance of the TEN notion lies in the fact that the EU attempts to describe a vision of how an integrated network should develop in Europe from 1995 to 2010 and beyond.

The guidelines for the Trans-European Road Network (TERN) provided for 56,000 km of high-standard motorways and road links across Europe. The plan fills in the present gaps between road systems and lays down the approach to developing a traffic management system. Overall investment required has been estimated in the region of ECU 140-180 billion. More than 70% of the necessary roads already exist, but 15,000 km of motorways or high quality roads are to be built in ten years, 40% of them in member states on the periphery of the Community.

The Railway Network will be based on a system of 70,000 kms of track carrying high speed trains and conventional passenger and freight services.

As regards now intermodal transport, this is on average responsible for 4-5% of the total freight moved within Europe on a yearly basis. It is estimated that daily some 6-7000 lorries are moved out of the streets and put on to the trains for a very substantial part of their journey.

This is n small percentage of share of the total market and for S.E. Europe it is even smaller. The only form of intermodal transport that has prevailed in the area is the less demanding Rollende Landstrasse and 20-foot maritime containers. The strong growth of the Rollende Landstrasse is a sign of the deficiencies rather than the strength of intermodal transport in Eastern Europe, as it reflects the lack of more sophisticated intermodal transport techniques.

Several studies and reports foresee a rapidly growing potential for intermodal transport in Europe in general. This however, may prove very difficult to achieve in S.E. Europe.

There are several reasons for this. First, it is the supply side. In Eastern Europe, intermodal transport followed a different line of development to that of intermodal transport in Western Europe: it was a monoculture of 20-foot-containers. Other load units, such as swap bodies, semi-trailers and 40-foot-containers, didn’t exist. These 20-foot-units were distributed door-to-door by rail, without any competition from trucks. Second, after 1989, this inadequate supply was accompanied by an even more problematic demand from newly - established truck companies:

- The market structure of road transport became atomistic - made up of numerous small and middle-sized Eastern European companies which were not able to meet the organisational or technical requirements of intermodal transport. The policy conclusion should be to offer these companies "easy-in easy-out" opportunities for intermodal transport. Market entry and market exit should be possible at low investment costs.

- Furthermore, the companies lack experience and - even more importantly - equipment for intermodal transport, such as portable semi-trailers, swap bodies and trailers.

As a consequence of these demand and supply-side problems, intermodal transport in S.E. Europe is still in its infancy, but this also means that there is a lot that can be done in the near future. This paper attempts to investigate what are the necessary actions.

Extension of the TENs and intermodal transport: two priority issues for transport development in S.E. Europe

George A. Giannopoulos
CHAIRMAN OF SETREF, PROFESSOR AT ARISTOTLE UNIVERSITY OF THESSALONIKI, TRANSPORT SECTION

This paper examines the prospects for two of the most urgent transport issues in S.E. Europe today, i.e., that of developing transport infrastructure, and of intermodal transport. For both issues a short background is given and then a set of proposed actions or "conditions of success" is presented. The work draws from a number of sources and references including the SETREF’s reports and the results of a recent Conference in Intermodal Transport.
2 The extent of TENs to S. Eastern Europe
Almost immediately after establishment of the guidelines and principles of the Trans-European Transport Networks, the need was seen for extending these networks and the notions behind them to other central and Eastern European countries so as to establish a European-wide network covering all those countries some of which have already started negotiations for accession to the EU.
Ministers agreed at their second Pan-European conference in Crete in March 1994 that a Europe-wide transport policy should be promoted and defined a first set of corridors. The corridors identified in the Crete guidelines were all assumed to be economically viable (as a general rule, giving a 10% rate of return) and to have a reasonable chance of being adequately financed by 2010. These were (see also Figure 1):

1. Tallinn - Riga - Kaunas - Warsaw + branch: Riga - Kaliningrad - Dansk
2. Berlin, Warsaw - Minsk - Moscow
   This corridor includes a fixed link across the Danube. PHARE programme is to finance a feasibility study for Romania and Bulgaria
6. Gdansk - Katowice - Zilina + branch: Torun - Poznan
7. Danube: including all ports in the Central and Eastern European countries
8. Durres - Tirana - Seispje - Sofia - Plovdiv - Burgas - Varna
Kiev-Minsk-Vilnius-Kaunas-Klaipeda - Kiev - Moscow - Kaunas - Kaliningrad

The first 9 transport corridors were identified in Crete in 1994 but were later extended in the Helsinki Conference (1997) by adding Corridor 10 from Greece to Germany via the countries of the ex-Yugoslavia.

3 The issues for a successful development of the TENs extensions in S.E. Europe
Creating an integrated trans-European Transport Network and extending it to third countries, poses some serious pro-

Fig. 1
blems for governments, many of them deriving from the sheer size of the projects involved. Judging from the Greek experience so far (which has a number of similarities but also differences with the other S.E. European countries) one can point to some “necessary conditions of success” which so to speak should govern actions for a successful promotion of the TENs extensions in Easter Europe and S.E. Europe more particular. These are presented and discussed below.

**Instituting and Applying the “partnership” concept for infrastructure development**

The “partnership” concept consists of two notions: that of the “partnership” between EU or other International Bodies, and the nations concerned, and that between public and private financial bodies. For the public/private partnership the challenge is to tailor the best possible public/private partnership to ensure a project’s completion within reasonable time. This has been discussed in several reports among which a report by the High Level Group (1997). The public sector, therefore, has to develop creative financing strategies to compensate for inadequate revenues and also to cover the risks which the private sector is reluctant to assume.

**Promote proper planning and project justification procedures**

If the private sector is to be convinced to invest in the development of new transport infrastructure solid and transparent planning activities should be established as the necessary basis for appropriate investment project selection. Such activities include:

a. Well founded and realistic traffic forecasting. Traffic forecasts must be based on solid data, realistic forecasts of economic growth and full knowledge of the competition characteristics of the different transport modes. Usually founded on alternative hypothesis concerning economic growth and other parameters, good traffic forecasts remain the basis for any economic and financial analysis that will determine the feasibility, viability, and the public-private mix in funding for a project. The Commission’s initiative to establish the proper planning activities under the Transport Infrastructure Needs Assessment (TINA) framework, is therefore something that has to be commented positively and should be strengthened in the future.

b. Solid project evaluation procedures. An economically viable project is one which will produce positive benefits for society, a financially viable project is one which will generate enough revenues to cover all costs and provide an adequate rate of return for investors. Estimated financial rates of return for Trans-European Network projects range from 3-8%, which is not enough to attract private investment without additional incentives. Thus proper socioeconomic evaluation procedures have to be employed that take into account wider social and economic impacts.

c. Formulating a network concept rather than “isolated” corridors. Up to now much of the planning and discussion has been focused on “corridors” in a rather isolated way. The concept should however be one of a “network” providing a certain level of service to the trips in the area and giving alternative routes until all the corridors are completed.

**Apply sound and innovative financing techniques taking account of existing experience**

This is something that is self explanatory as a condition of success. Many specific and specialised studies are dealing with financing issues that draw on the experience of other countries or cases. I would like to refer to the following main points that have come out of Greek experience on financing of transport infrastructure:

- Take advantage of the revenue generating sections and of the opportunities of the back to back financing approach to complete the missing links, especially in the reduced development scenario.
- Start a “pilot concession” with a relatively small scale and low risk project, set priorities of missing links completion and proceed with other projects as well.
- Increase gradually existing toll levels so as to come to the proper levels when the motorway is built.
- Promote the project to stimulate interest from domestic and international construction companies and financiers.
- Create for each potential concession project a team for technical, legal and financial support.
- Draft a clear concession agreement.

**The EU policies concerning the Extention of TENs**

The European Union has made significant progress in putting in place a strategy for the development of a coherent intermodal transport network not only between EU members but also for all countries in Europe. This strategy is formulated by a number of Directives, Decisions, and other texts that already outline the main actions to be taken. The most important of these actions are as follows:

- Systematic promotion of the materialization of the Trans-European Networks and their extension to the countries of Eastern Europe.
- Encouragement of the creation of intermodal transport terminals.
- Promotion of a white paper on costing and pricing in the
field of transport. The system anticipated, by charging the appropriate amounts for the use of all infrastructure, is expected to “promote” intermodal transport.

- Adoption of a new approach for the railways. This approach calls for the liberalization of railway services, increases in the average commercial speeds for long distance travel, and competition with the other modes. The concept of Rail Freight Freeways which provides for the separation of the infrastructure from the operational side and unhindered access to railway services for the customer, is now being vigorously promoted by the Commission for Western European Railways, while the PHARE programme is pursuing a study for the application of this concept in Eastern European countries.

- Further development of the maritime Short Sea Shipping services.

- Promotion of the standardization in the unitization of loads (containers, pallets, etc).

- Promotion of the Various Telematics applications for intermodal transport.

4 Improving the Intermodal Transport System

Policy Issues
The technical and organisational improvement of intermodal transport in S.E. European countries is not sufficient. A better market performance requires a favourable policy framework. West European experience shows that intermodal transport has only developed in countries which provide a deliberate and comprehensive intermodal transport policy. Intermodal transport will not be able to survive without determined political support. Transport policy provides a broad set of measures to support intermodal transport and, at the same time, to optimise the transport system as a whole. Within such a policy the following measures should be examined and potentially included:

- stricter technical requirements for road trucks
- promotion of rail transport for dangerous goods transport
- stricter environmental requirements for road trucks
- lower maximum axle-loads for road trucks and, consequently, lower road-maintenance costs
- driving ban exemptions or other incentives for haulage to/from intermodal transport terminals
- tax and depreciation exemptions for intermodal transport equipment
- legal framework for insurance issues in intermodal transport.

Equally important is an effective system for controlling the above measures. Although first steps have been taken to deregulate the railways and the intermodal (combined) transport markets, a full implementation of such measures is far from happening yet. The EC Directive 91/440 may provide a good basis for such measures but separating infrastructure from operations, which most countries are proceeding to do on a regulatory level is likely to meet with considerable problems in the actual implementation.

Finally, in most cases customs’ laws and difficulties in crossing borders pose considerable problems. In most cases, customs’ laws have not yet been adapted to address the practical needs of intermodal transport. Namely, it is more efficient to conduct customs clearance and veterinary controls at the terminals, and not at the borders where there are considerable waiting times involved. Although special measures are implemented in some cases, the need remains for customs laws to be improved and brought in line with those in neighbouring countries.

Technical Issues
Coming now to the issues concerning intermodal transport in this part of the world, one could start by saying that although this kind of transport seems ideally suited, it is hardly evident in today’s transport scene in the area. Several studies have been commissioned, mostly financed by programme Phare to examine the problems of intermodal transport in Eastern European Countries and S.E. Europe in particular (Ecis, 1995; Bukold, 1996; Burkard, 1996). The following are the most important suggestions and proposals that have been put forward to the best of the authors’ knowledge.

a. Improvement of transport infrastructure, and primarily that of intermodal transport terminals
This is obviously important but the emphasis must be put on the intermodal terminals preferably near ports or other existing unmodal terminals. A network of such terminals covering the whole of the S.E. European area would enhance intermodal transport tremendously. The areas of the ports of Igoumenitsa, Thessaloniki, Alexandroupolis, in Greece and those of Varna and Burgass in Bulgaria are 5 obvious areas for the development of such terminals to start with, in the East. The major ports in the Adriatic, Trieste, Ancona, Brindisi, Split and Bar or Duress would also be good candidates.

b. Creating wagon pool companies
Intermodal transport services, especially trailers and large swap bodies, require specialised high-cost rail wagons. However, intermodal operators and railway companies in S.E. Europe do not yet have the financial means to build up appropriate wagon fleets. They are instead renting western European wagons at high cost. To overcome this problem, one or several wagon pools should be established. Wagon manufacturing facilities are available in Eastern European countries. This measure could be an important step towards creating independent intermodal operators and towards improving the competitive position of intermodal transport.
c. Creating an intermodal transport equipment pool for truck hauliers

Most potential clients of intermodal transport are small road hauliers who face enormous competition and have little or no investment capital at their disposal. The same holds true for railway companies. These companies should be offered “easy-in easy-out” opportunities for intermodal transport. Market entry and market exit should be possible at low investment costs.

An intermodal transport equipment pool should include swap bodies, trailers, special containers and chassis of different kinds. The costs of these would exceed the investment resources of hauliers and their preparedness to take risks.

An equipment pool offering favourable leasing conditions could pave the way for intermodal transport for small and medium-sized road hauliers. Supra-national efforts should be sufficiently regionalized to provide easy and rapid access to pool equipment. Due to the low market transparency, the establishment of pools should be accompanied by an intensive information and promotion campaign. The feasibility of such an equipment pool should be studied.

d. Upgrading terminals

A number of terminals are not equipped to handle trailers and swap bodies: their layouts and equipment have only been designed to handle small maritime containers.

There is a general need to upgrade and, in some cases, to build terminals - avoiding, in particular, locations within city centres.

A general terminal-upgrading programme needs to be developed, including thorough market studies to avoid the possibility of a lack of capacity or an overcapacity.

e. Minimal upgrading of railway tracks

All countries involved in the area signed the AGTC Agreement to upgrade railway networks to its standards. At this moment, and although there are no major obstacles regarding rail infrastructure, work for a minimal upgrading should start because when traffic volumes increase (as the economies pick up speed) problems will arise.

f. Promoting management information systems & telematics

The introduction of modern information and communication systems, monitoring the flow of intermodal transport load units and increasing management productivity, is an important element in improving competitiveness. Such systems are being introduced on western European connections. Their potential application to Intermodal corridors in this area needs to be studied.

g. The need for traffic-flow data

There is a critical need for freight-flow data on the area. Basic information for modelling and forecasting is not available. This represents a major bottleneck for feasibility studies and investment. Action should be taken to provide this data as soon as possible.

5 Suggestions of the 2nd Conference on intermodal transport in S.E. Europe

In June 1998 in Thessaloniki Greece the 2nd International Conference on intermodal transport in S.E. Europe took place.

As a result of the many discussions, papers, and presentations that took place in that Conference a set of 8 actions were established as necessary in the short term. These actions, called “Intermodal Agenda for 2000”, are the following:

1. Simplification of procedures and minimization of delays at borders. If we are concerned about the new transport situation in the 21st century, top priority must be given in 14 reducing the delays at borders. Among the most immediate and efficient measures to be taken are:

   • Simplification of the visa issuing and checking procedures. As a first step introduction of a multiple entry visa for the drivers of lorries of international transport, or buses, or businessmen that have opened branches of their businesses in more than one countries in the region. Also for academic personnel (in universities or research institutes).

   • Cooperation between the authorities in both sides of the border in order to make common checks and controls.

   • Acquisition and use of modern equipment (mainly PCS, software, modems, etc) at border services with a view to increasing speed, accuracy, and reliability of controls before even reaching the border.

   • Adoption of new common accompanying documents for freight, that will simplify and shorten the controls. For example, a recent decision taken within the SECI initiative for the adoption of a new common document for the weighing of vehicles so that multiple successive weightings in each border is avoided.

   • Adoption of common limits for weights and dimensions for trucks.

2. Action towards a more “fair” pricing - costing of transport services. Of immediate priority should be the subject of establishing a common pricing policy on behalf of the railways which will provide certain advantages towards intermodal transport. Of equal importance is the establishment of a fair pricing policy for all modes of transport. This means that the modes other than the
railways should be charged according to the real cost of
their infrastructure. Finally, whatever charges are levied
to the transiting vehicles sjur should be levied equally on
all vehicles irrespectively of their nationality.

3. Promotion of a permanent three-party cooperation for
the development of solutions to the problems that exist
in the field of transport in S.E. Europe. This three-party
cooperation will be effected by representatives of:

• the scientific / academic community
• the transport forwarders or operators
• the public administration.

Already such a three-party cooperation has been agreed
during this Conference between Greek participants and is
expected to be extended to other countries as well. In this
respect the newly founded South East European Transport Research Forum (SETREF) can play a leading role.

4. Speeding of the procedures for the adoption of com-
mon policies for the countries of the area at least in the
major transport issues. Such policies should be harmoni-
zeed with the corresponding policies of the EU as they
have been outlined in the previous sections (e.g. com-
petition, privatization, intermodal freight transport centers,
etc).

5. Promotion and speeding of the development of new
transport infrastructures, and more specifically:

• Operation (in the pre-war standards and beyond) of the
road and rail axis no. X through the countries of ex
Yugoslavia and Yugoslavia itself.

• Creation of appropriate transport connections between
existing road or port infrastructures so as they can opera-
te as a network

• Development of intermodal transportation centers by
priority near ports, or rail and airport terminals.

6. Harmonization of the various national transport legis-
lation (especially for intermodal transport or at least
their codification). The participants stated the need for
adopting common rules regarding the conditions of liabil-
ity in the various transport modes that participate in the
intermodal transport chain. They also stated the need for
establishing the kind of “successive” liability like the one
that exists in the road and rail transport (separately).

7. Organisation of Public awareness campaigns for users
and the public more generally so as to help them adjust
more quickly to the changing reality of intermodal trans-
port.

8. Organisation of systematic training for the personnel of
all organisations involved in intermodal transport or in a
position to promote cooperation between modes.

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