

EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

35th Annual Report - 1988

ACTIVITIES OF THE CONFERENCE

**RESOLUTIONS OF
THE COUNCIL OF MINISTERS OF TRANSPORT
AND REPORTS APPROVED IN 1988**

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Luxembourg, 25th-26th May 1988
Paris, 29th November 1988



THE EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT (ECMT)

The European Conference of Ministers of Transport (ECMT), an inter-governmental organisation established by a Protocol signed in Brussels on 17th October 1953, constitutes a forum for the Ministers of Transport of 19 European countries¹. The work of the Council of Ministers is prepared by a Committee of Deputies.

The purposes of the Conference are:

- a) to take whatever measures may be necessary to achieve, at general or regional level, the most efficient use and rational development of European inland transport of international importance;
- b) to co-ordinate and promote the activities of international organisations concerned with European inland transport, taking into account the work of supranational authorities in this field.

Major problems which are being studied by the ECMT include: transport policy; the financial situation and organisation of railways and road transport; problems concerning inland waterway transport and combined transport; development of European trunk lines of communication; problems concerning urban transport; the prevention of road accidents and co-ordination, at European level, of road traffic rules and road signs and signals; traffic trends and long-term traffic forecasts.

Moreover, the ECMT organises round tables and symposia. Their conclusions are considered by the competent organs of the Conference, under the authority of the Committee of Deputies, so that the latter may formulate proposals for policy decisions to be submitted to the Ministers.

The ECMT is equipped with a computerised documentation centre.

The Secretariat is attached from an administrative point of view to the Secretariat of the Organisation for Economic Co-operation and Development (OECD) which publishes and distributes its publications.

1. Austria, Belgium, Denmark, Finland, France, Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and Yugoslavia (associated countries: Australia, Canada, Japan, United States).

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TABLE OF CONTENTS

<i>Preface.</i> Introduction by the Secretary-General	5
<i>Introduction.</i> Outline of the structure and proceedings of the Conference	7

Part One

ECMT ACTIVITIES

<i>Chapter I.</i> GENERAL TRANSPORT POLICY IN EUROPE	11
A. The relations between the European Communities and Non-EC Members of ECMT after 1992 and the role of ECMT as an Organisation	11
B. Harmonization of taxes and fiscal charges on transport of goods by road	13
C. Studies in hand with a view to the conclusion of a multilateral agreement on international road transport	14
<i>Chapter II.</i> ACTIVITIES IN PARTICULAR FIELDS	16
A. Railways	16
B. Road safety and road traffic rules, signs and signals	17
C. Multilateral quota	19
D. Combined transport	20
E. Inland waterways	20
F. Transport and the environment	21
G. Urban transport	22
H. Transport for disabled people	22
I. Transport, computers and telecommunications	23
J. Activities in the field of statistics	24
<i>Chapter III.</i> ECONOMIC RESEARCH AND DOCUMENTATION	26
A. Overview	26
B. 11th International Symposium on: "Resources for Tomorrow's Transport"	27
C. Round Tables	30
– Round Table 78: Telematics in goods transport	30
– Round Table 79: Environmental considerations in the evaluation of transport projects	32
D. Documentation	34
<i>Chapter IV.</i> EXTERNAL RELATIONS	36

Part Two

TRENDS IN THE TRANSPORT SECTOR 1970-1987

Introduction	41
General situation	41
Freight transport	42
Use of the ECMT multilateral quota	42
Passenger transport	45
Road accidents	46
Traffic on the river Rhine	48

Part Three

**RESOLUTIONS OF THE COUNCIL OF MINISTERS OF TRANSPORT
AND REPORTS APPROVED IN 1988**

General questions

Resolution No. 64 on the more rapid introduction of leadfree petrol into Europe.	51
Resolution No. 65 on the shortcomings in important international piggyback transport links	53

Railways

Resolution No. 24 on railways	60
---	----

Roads

Resolution No. 54 concerning the fitting and wearing of seat belts on the rear seats of cars and safer transport of children and adults	116
---	-----

REPORTS APPROVED BY THE COUNCIL OF MINISTERS

Report on Financing Urban Public Transport	121
Report by the Committee for Road Traffic, Signs and Signals to the Council of Ministers	161
Proposals for the adjustment of the multilateral quota as from 1989	189

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ANNEXES

I. ECMT Organisation chart	192
II. List of Officers of the ECMT	193
III. List of Delegates at the Luxembourg and Paris Sessions	194
IV. Resolution No. 893 (1988)(1) in reply to the 32nd and 33rd Annual Reports of the European Conference of Ministers of Transport (ECMT)	202
V. Eurofima Report	205

PREFACE

Two subjects which have been very much in the limelight in 1988 both concern transport: the changing political climate in Eastern Europe and the rapidly deteriorating quality of the environment.

We have learned two Russian words, perestroika, reform, and glasnost, the openness without which perestroika is not possible. It is, of course, of the utmost importance that the changing attitudes in the Soviet Union lead to better contacts with the North Atlantic States and contribute to the prospects for peace in the world. Apart from that, the advances may also lead to interesting *economic* advances in Europe. Certainly, as long as the economic systems differ as much as they do in Western and Eastern Europe, contacts will probably remain laborious and limited, but if the economic systems were to converge there could be some fascinating developments.

Transport is often in the forefront of change. Technological innovations, for instance, often first become visible to the public in their applications to transport. The same is true for changes in the location of centres of economic activity or in the introduction of new trade relations. The ancient caravan routes, with their effects on settlements and trade relations, have disappeared only in form, not in essence.

Countries of the Council for Mutual Economic Assistance (CMEA), are showing a keen interest to make political contacts with the Western European countries, especially in the field of transport. That is a good thing. Glasnost is a first step to mutual understanding, which in turn is a step towards progress and shared benefits.

Rarely has a day passed in 1988 without a newspaper report on the worrying state of the environment. The ozone layer is under attack from the CFC's, the chloro-fluoride-carbons, endangering the earth's protection from ultra-violet radiation. Trees, but also monuments, are suffering from what is usually called 'acid rain'. Every day species of plants and animals are disappearing from the world. The oceans are polluted even thousands of miles from the coasts. The tropical rain forests, producers of oxygen and absorbers of carbon dioxide are being cut down at a frightening rate.

It cannot be denied that Transport bears a part of the responsibility for present pollution. It may be wrong to point at transport as the major contributor but there is good reason for this branch of economic activity to be introspective. Ministers are becoming well aware of this and they will devote a special Council to Transport and the Environment in autumn 1989.

The craft of politics is to balance interests, in this case the interest of mobility through an efficient, varied, fast and comfortable transport system, and the interest in a safe, clean environment. Both contribute to the quality of life and to find the right balance is difficult but extremely important.

As in the previous year, many activities in the field of transport concerned the completion of the single European market, to be achieved by the end of 1992. Many entrepreneurs, both in and outside the countries of the Community realise that it is essential to prepare now for 1992. Changes are already underway through mergers between companies, through new forms of international cooperation and through the creation of subsidiaries in neighbouring countries.

Two principal kinds of development are to be expected for the transport market in the framework of the single market: in the first place an enlargement of the scale of firms, which will provide regular, uniform services, with high frequency, and a simple tariff structure. These firms will use the most up-to-date technologies and they will operate in a large area. Secondly, there may be a development towards smaller, specialised companies, with a profound knowledge of particular products and of specific geographical areas.

However, there is a danger that such overwhelming attention is given to the structural adjustment due to the completion of the single market, that the many other structural changes are insufficiently taken into account. For example, information and communication technologies keep developing with great speed and significant transport applications are becoming evident. The strong industrial and financial position of Japan and

the impressive performance of newly industrialised countries in South-East Asia are changing the patterns of production and consumption on a worldwide scale. The growth in air travel and the development of intercontinental tourism are remarkable. In the railways we see on average a decline in goods transport and a growth in passenger travel. The interest for fast trains may soon, for the first time, result in international high speed rail connections. Maritime transport is changing through improvement of navigation systems, better management and greater use of logistics. In many fields what is new today will be obsolete tomorrow. It is not sufficient to be aware of the important change which 'Operation 1992' will bring; these changes have to be seen as part of a new industrial revolution which is going on in the whole world.

Europe has to find and defend its place in this new industrial world. That can only be done with effort and determination. It is interesting to observe that nowadays there is little relation between a country's natural resources and its prosperity, unless human potential is called a natural resource. Only countries with efficient and advanced systems of education and training prosper, even if the soil is poor and minerals are scarce. Creating strength from weakness is the most promising formula in our era.

Europe's weakness lies in its enormous variety, the differences in culture, language, history, mentality. That can be turned to an advantage if it is used as a source of inspiration, as a basis for interesting designs, a well of new thoughts and concepts. Then that weakness could become Europe's strength.

The tasks of ECMT are to do everything possible to improve surface transport in nineteen European countries and also to co-operate with its Associated Members. The radius of action is limited by what is done in other international bodies, especially the EC in Brussels and the Economic Commission for Europe of the United Nations in Geneva. In that framework an important question is what will be the position of the seven non-EC members of ECMT after 1992. Is the EC going to be the fortress some people fear? Do the EC and the EFTA countries want to create a new, more structured relationship with common decision-making and administrative institutions, as was suggested in Brussels in the beginning of 1989? And if so, do the EFTA countries wish to use the ECMT for that purpose as far as transport is concerned?

For the continuity of trade in Europe it is essential that continuity of transport is assured. Creative solutions to present problems need to be found. While the position of the various countries differs appreciably, it is my conviction that a good basis for finding such creative answers lies in further improved international cooperation.

Jan C. Terlouw
Secretary-General

INTRODUCTION

OUTLINE OF THE STRUCTURE AND PROCEEDINGS OF THE CONFERENCE

As the organisational chart in Annex I shows, aside from the Council of Ministers itself and its Committee of Deputies, the Conference has three types of working unit, and the following were active in 1988:

1. *Standing Committees and Groups*

- Economic Research Committee;
- Committee for Road Traffic, Signs and Signals;
- Road Safety Committee;
- Combined Transport Group;
- Urban Transport Co-ordinating Group;
- Management Group (Documentation System);
- Group of Statisticians.

2. *Ad hoc Groups*

- High-Level Group responsible for preparing policy proposals with respect to specific charges, tolls and taxes;
- Technical Group on issues relating to harmonization and liberalisation;
- Group on transport and the environment;
- Group on regulatory reform;
- Group on railways;
- Group on the adjustment of the multilateral quota;
- Group on inland waterways;
- Group on transport, computers and telecommunications (with a sub-group on road/vehicle communication);
- Group on transport for disabled people;
- Group on trends in international traffic;
- Group responsible for preparing aspects of a multilateral agreement on international road transport.

3. *Restricted Groups*

- Restricted Group "A" (EEC member States);
- Roads Restricted Groups.

The reports produced by these bodies are considered by the Committee of Deputies and submitted, once approved, to the Council of Ministers.

The Officers of the Conference in 1988 were Luxembourg's Minister of Transport, Public Works and Energy, the United Kingdom's Minister of State for Transport (First Vice-Chairman) and Sweden's Minister of Transport and Communications (Second Vice-Chairman).

The Council of Ministers held two sessions in 1988: the first (67th Session) in Luxembourg on 25th and 26th May and the second (68th Session) in Paris on 29th November.

The Committee of Deputies held its six sessions in 1988 on 14th January, 14th April, 25th May, 30th June, 20th October and 29th November.

It should also be noted that, as is customary each year, the Conference held a number of Round Tables in 1988 on specific topics in the field of transport economics. It also organised in Brussels its 11th International Symposium on the topic "Resources for tomorrow's transport".

In addition, two international seminars were held in 1988 within the framework of ECMT activities: the first in Paris on 12th and 13th April on "Disabled people and cars", and the second on 1st to 3rd June in Hamburg (Federal Republic of Germany) on "Road safety, first and foremost a matter of responsibility".

The proceedings of the Conference are briefly described hereafter.

Part One

ECMT ACTIVITIES

1971

1971/1972

Chapter I

GENERAL TRANSPORT POLICY IN EUROPE

A. THE RELATIONS BETWEEN THE EUROPEAN COMMUNITIES AND NON-EC MEMBERS OF ECMT AFTER 1992, AND THE ROLE OF ECMT AS AN ORGANISATION

1. Introduction

Preparations for completion of the internal market of the European Communities as scheduled on 31st December 1992 are well under way. There is no doubt that this market will strongly influence the commercial activities of the EC countries and, of course, it will also be of importance to the other (industrial) countries of the world, more particularly those on the same continent like the non-EC Member countries of ECMT.

International transport is a commercial activity holding a special place among such activities as a whole since it calls for the physical movement of people and goods from one country to another. Open frontiers to transport means that the barriers at borders are indeed physically removed.

The fact that EC and non-EC countries form a geographical patchwork gives rise to a special problem where transport is concerned since, in some cases, surface transport trips from one EC country to another will be discontinuous i.e. they will cross a non-EC country.

At the Lausanne Session of the Council in 1986 the Ministers of ECMT recognised this problem and decided that a Group of Experts should be set up to study the possibilities for concluding a Multilateral Agreement on International Road Transport between all ECMT countries. As pointed out later under the heading C, this Group, is considering in detail whether obstacles to such an agreement can be removed, (harmonization of vehicle weights and dimensions, social conditions, access to the market, etc.). Another ECMT Working Group is studying the important matter of fiscal harmonization.

2. Can a multilateral solution be found?

All countries would seem to recognise the importance of a system which allows the freest possible transport operations between all ECMT Member countries. This follows from the replies of the Member countries to a questionnaire of the Secretariat. Some consider that it is not necessary to achieve full harmonization of the terms of competition before agreement is reached on further significant liberalisation in ECMT because all Member countries benefit from the promotion of more international trade. Others think that at least some factors distorting competition between hauliers of different nationalities have to be eliminated beforehand. Several countries lay stress on the possibilities offered by a gradual increase in the ECMT multilateral quota.

There are however a number of specific problems in certain non-EC Member countries which it may not be possible to resolve under a multilateral agreement, problems concerning transit and the environment in particular. In such cases, special arrangements should be found, such as an addendum to the multilateral agreement. Some non-EC countries have made it clear that, if no progress can be made towards establishing a multilateral agreement, they would not hesitate to approach the EC on a bilateral basis or within a regional framework so as to gain access to the EC market.

None of the countries have expressed any apprehension that there might be a conflict of interests between the competence and procedures of the EC, on the one hand, and the different role of the ECMT in providing a unique forum for multilateral discussion at ministerial level, on the other.

3. Equal treatment

Differences will clearly always exist between the rights and duties of a non-EC member of ECMT and those of an EC member State. In general, however, all ECMT Member countries are in favour of ensuring equal treatment in the transport sector as far as possible. Nevertheless, as one country has pointed out, it would be an illusion to think that absolute equality of treatment between EC and non-EC members of ECMT could be established in the transport sector in the next few years. Another country considers that for countries with particular topographical or regional problems alternative solutions may have to be found.

4. Road traffic between ECMT and planned-economy countries

The Inland Transport Committee of the UN/ECE in Geneva discusses problems concerning road traffic between planned-economy countries and Western European countries. A number of well-known Conventions are developed and managed by the UN/ECE.

So far, however, countries have not met at the highest political level at the ECE in Geneva, but a number of the Council for Mutual Economic Assistance (CMEA) countries recently announced that they would be interested to meet the Ministers of Transport of ECMT countries to discuss whether contacts could be established within the framework of the Conference.

The Soviet Union is experiencing some interesting political developments that are likely to have economic and commercial repercussions in that country and in other East European countries. Many ECMT Member countries seem to be of the opinion that the transport sector, instrumental for both cultural and economic relations with the non-ECMT European countries, should not hesitate to take advantage of the changing situation and, indeed, establish a dialogue with the Ministers of Transport of the CMEA countries for the purpose of exchanging views, experience and suggestions for future co-operation.

Furthermore, some practical matters of concern to ECMT might be dealt with, although a number of countries warn that the differences of economic structure and State influence are still so wide that it would be unrealistic to envisage extending either the ECMT multilateral quota or non-quota liberalisation on a multilateral basis beyond the ECMT area in the short or medium term.

By and large the volume of road transport between ECMT and planned-economy countries is modest. Such operations are based on bilateral agreements. In some cases hauliers are not required to hold a permit, either for a transit or terminal haul. Alternative transit routes are available and often used, for instance on trips to the Middle East through the CMEA countries.

Major problems in connection with the East European countries are:

- Unduly high tolls on highways;
- Fines when the axle weight is too high, even if the total weight of the vehicle is less than that permitted;
- Slowdowns owing to traffic accidents;
- Delays owing to frontier formalities;
- One-sided use of the quota owing to cheap offers on the part of the planned-economy countries;
- State-trading countries usually buy f.o.b. and sell c.i.f.;
- Highly restrictive terms for the enterprises of ECMT countries when setting up branch offices in CMEA countries whereas, as a general rule, entrepreneurs from the planned-economy countries are welcome in the West.

5. The role of ECMT after 1992

When the ECMT was set up in 1953, only six of its (then sixteen) Member countries were also members of the EC, whereas the breakdown is now twelve EC and seven non-EC. The future may see even more ECMT countries joining the EC or developing close relations with the Common Market. Aside from this, if it should prove impossible to find multilateral solutions, it would seem that the ECMT's role in its original sphere of activity will be reduced considerably after 1992. What are the consequences expected to be?

The replies of countries to the questionnaire clearly show that ECMT is highly appreciated as a forum for Ministers of Transport to meet in view of its unconventional "brainstorming" approach to problems and, as a general rule, the opportunity for frequent meetings and exchanges of views. The feeling seems to be that this forum should not be lost.

It has also been suggested that the ECMT might develop gradually into a consultative body for the EC, ready and able to help it in its endeavours to establish a thoroughgoing general transport policy for the 21st century. In order to achieve this goal it would be essential to overcome any institutional sensitivity and recognise the need to avoid being trapped in a Europe of transport with two or three speeds.

Little enthusiasm is shown for the ECMT to broaden the scope of its work to take in other modes of transport since these are already covered by other international organisations.

Many Member countries seem to be in favour of the ECMT becoming a forum for political contacts between its member and Associate Member countries and planned-economy countries in Europe, although care would of course have to be taken to ensure that there was no overlapping with work done at the UN/ECE in Geneva. Mention was also made of contacts with countries peripheral to Europe (the Mediterranean Basin).

It is the view of some countries that, if there should be a multilateral agreement between the 19 ECMT countries after 1992, and if some form of liberalisation arrangement with the CMEA countries should not prove feasible owing to the widely differing economic systems, the ECMT should concentrate to a greater extent on the less political aspects of transport. Moreover, subjects such as transport and the environment, deregulation, safety, transport for the disabled, and road-vehicle communication are important and are of interest to countries beyond Europe alone. As the Associate Member countries have similar problems in these fields, it is highly desirable that they should participate actively in the ECMT's working bodies and the suggestion was made, if possible, to become full members of the Organisation. This would have the advantageous effect of greater co-ordination of the work done by OECD and ECMT.

Even in a more integrated Europe, problems will remain for which it would be useful to have a co-ordinating body like ECMT, a particular case in point being infrastructure issues. It is, for instance, essential to establish a European network of high-speed trains in which both EC and non-EC countries participate.

B. HARMONIZATION OF TAXES AND FISCAL CHARGES ON TRANSPORT OF GOODS BY ROAD

In order to make further progress in the work on harmonization of the terms of competition in international road transport and accordingly pave the way to greater liberalisation in this connection, the Committee of Deputies set up a "Technical" Group in 1986 whose main task was to compile and analyse all the data that might throw some light on the policy decisions to be taken. In accordance with the general line of approach described in the preceding part of this chapter, a parallel aim of the Technical Group's work was to enable the ECMT to ensure that too wide a gap did not open up between the European Communities – in the current progress towards the completion of the single market – and the situation found in the context of the 19 European countries belonging to the Conference.

The aim was therefore to determine, on the basis of objective and comparable data for all Member countries, the level of the existing distortions as regards taxes and charges so as to be able to evaluate the extent to which it would be necessary to take measures to achieve greater harmonization of the terms of competition throughout Europe and, where appropriate, to determine the scale of such measures.

Given the size of its task, the Technical Group found it advisable to deal with it in three phases: in the first, which was completed in 1987, it drew up an inventory of the main taxes and charges specific to international road haulage, an inventory that was set out in a report submitted to the Madrid Session of the Council of Ministers and was discussed in detail in the Annual Report for 1987. Throughout 1988 the Technical Group conducted a number of statistical surveys to complete the second and third phases of its work which consisted of establishing output balances for international road haulage and then balances of the revenues from taxes and charges on such transport.

For the sake of simplicity, it can be said that the aim of the output balances is to determine the volume of transport operations carried out in a reference year by commercial vehicles registered in a given country on the roads of other ECMT member States and, on the other hand, by foreign carriers on the roads of that country.

In a Europe engaged in intensive trading but made up of countries differing in size and economic weight, some of which are geographically in peripheral or transit situations, there are quite obviously significant differences among those countries with respect to the two types of output mentioned above. In other words,

carriers from some Member countries record far more tonne-kilometres on roads in other countries than the carriers in such countries record on the territory of the country in question. The object is then to ascertain the extent to which these disparate situations are reflected in the breakdown among Member countries of the revenues from taxes and charges on international haulage operations.

It was precisely in response to the latter object that the Technical Group carried out the third phase of its work which consisted of establishing a balance of revenues from territorial or semi-territorial taxes, an exercise that occupied a major place in the Group's programme of work in 1988. It gave rise to some quite considerable problems from a methodological standpoint and a number of working assumptions were also called for in this connection.

For purposes of this annual report it will suffice to say that the "semi-territorial" taxes taken into account were essentially those on motor fuels and, under the heading of "territorial", the specific charges levied in a number of Member countries. The taxes on motor fuel clearly illustrate the difficulties experienced in establishing a link between the amount of tax collected and the actual transport output on the territory of a given country since, while the practice of duty-free duty allowances is an initial obstacle, the question of refunds in some cases represents another. Moreover, in order to obtain a more accurate picture of the situation, it is also necessary for the analysis to incorporate reasonable assumptions concerning the fuelling strategies adopted by carriers in the light of differences in price of diesel fuel in the various countries. Lastly, quite aside from the price of diesel fuel and the amount of tax on it, it is necessary to know the mean specific consumption of vehicles employed in international haulage and the average load weighted according to distance, which is itself based on a whole set of assumptions concerning standard routes used by international traffic.

The motor fuel tax is not however the only factor taken into account in the context of the study and, fortunately, the procedures are somewhat simpler for the analysis of strictly territorial taxes, charges or tolls.

On the basis of all the studies carried out along these lines it is now possible to draw up a table of revenues from the various categories of taxes and charges levied on foreign vehicles in relation to their haulage output on the territory of a given country. The results of these calculations provide a sound basis for assessing the situation from a policy standpoint, especially as regards the imbalances and, accordingly, the harmonization measures that may prove necessary. It should be pointed out that there is no saying at the present stage what form such harmonization might take, since it is clearly for the policy-making authorities to take such decisions, which also call for broadly-based consultation not only with other ministerial departments concerned but also with international bodies such as the EEC, in particular, and with all those concerned in the economic context.

One additional observation should be made to the effect that the studies described above have no bearing whatsoever on the coverage of infrastructure costs since they are confined to comparisons of haulage output "abroad" and to the taxes and charges that may be assumed to correspond to such output. It remains to be decided at a later date whether the whole issue is to be broadened to cover the aspect of infrastructure costs which can differ appreciably from one country to another.

C. STUDIES IN HAND WITH A VIEW TO THE CONCLUSION OF A MULTILATERAL AGREEMENT ON INTERNATIONAL ROAD TRANSPORT

At the Council of Ministers' Lausanne Session in May 1986 the Swedish Delegation put forward a somewhat innovative proposal to the effect that a multilateral agreement be concluded within ECMT as a framework for the harmonization of a whole range of international road transport regulations since, in view of the establishment of the single market in the European Communities as from 1993, the Swedish authorities considered that urgent steps were called for to ensure that a "system of different speeds" did not develop in Europe whereby a number of different sets of rules were established according to whether the ECMT Member countries were also EC member States. Such a situation would inevitably be detrimental to industry and international trade in the region and, accordingly, detract from Europe's competitiveness on the world market.

As matters now stand, leaving aside the processes within the EEC, most provisions relating to international road transport are in fact based on various bilateral agreements. Given current developments, it may therefore seem advisable to establish particular multilateral arrangements which are duly co-ordinated

with the procedures worked out in Brussels. It might accordingly be hoped that the transport market would not be seriously disrupted by any further distortions occurring after 1993.

A multilateral system set up within ECMT in this way might not only run parallel, as it were, to the Community's movement towards complete liberalisation of international road transport but also gradually replace the system of bilateral agreements now existing between the various parties concerned.

The Council of Ministers showed considerable interest in the proposal summarised above and it at once requested that the matter be examined in depth by the competent bodies in the Conference, a process that should first take account of a number of institutional constraints, especially concerning the procedures to be adopted, and should then focus on the prerequisites, more particularly as regards the content and form of such an agreement.

As regards the form, a consensus was quite soon reached to the effect that the matter be dealt with with the greatest possible flexibility. There seem to be a number of possibilities in this connection, aside from an agreement in the strict sense, examples being a legal convention or simply a series of ECMT recommendations. What essentially matters here is that Governments should jointly commit themselves to complying with a number of basic principles concerning methods of organising and operating the international road transport market in the geographical area covered by the ECMT.

Concerning the other aspects of the proposal, it was first found necessary to make far-ranging enquiries as to the advisability and actual possibilities of concluding such an "Agreement" and the precise scope of the relevant provisions. This work was assigned to an informal Group consisting of independent specialists so that due consideration might be given to the views of Community bodies and of both EEC member and non-Member countries.

The informal Group began its work towards mid-1987 and submitted a series of proposals to the Council of Ministers at its Luxembourg Session in May 1988 which served as a basis for the Council to lay down the following guidelines: the approach is to be as pragmatic as possible, focusing initially on the road freight transport sector which warrants some priority treatment in view of the types of problem arising. Four major categories of issue can be ascertained in this connection which have to be resolved jointly at European level so as to eliminate the major distortions of competition now existing and so pave the way towards the establishment of a more liberalised international transport market, issues that may be listed under the following four familiar headings:

- Taxation specific to international road transport;
- Social provisions (working and driving time for crews of commercial vehicles);
- Weights and dimensions of commercial vehicles;
- Access to the occupation of road haulage operator.

The first two subjects are already under consideration by the Conference and no further activity in this connection would seem to be called for at present. As regards weights and dimensions, a number of countries that are not members of the Communities have already taken, or are in the process of taking, measures similar to those which came into force in the EEC, so this particular problem is centred on a number of specific situations.

Accordingly, it seemed logical to concentrate initially on the question of access to the occupation of road haulage operator. In any event, factual data has already been compiled in this connection in the Group's exploratory work. With a view to making further progress, the Council decided to convert the informal Group into a regular ad hoc Group with a remit to work in close collaboration with the services of the Commission of the European Communities in order to resolve this problem on a harmonized basis.

The new ad hoc Group has begun working along the lines proposed and, in the light of the needs and changes in the situation, it is planned to extend its activities to other spheres in which some harmonization of the rules applicable in the various ECMT Member countries can pave the way towards the establishment of Europe's future transport sector.

Chapter II

ACTIVITIES IN PARTICULAR FIELDS

A. RAILWAYS

The statistics on trends in international rail traffic are a matter of concern in view of the fact that, notwithstanding the measures taken by the railways to improve their services, passenger traffic diminished by 13 per cent and freight by 3.6 per cent from 1980 to 1986.

Faced with the hard facts of a competitive market which will become even more open in the EEC countries in 1992, the railways cannot simply wait for that date without doing anything. If the decline of rail transport is not to be accepted as inevitable, a range of measures is called for in the meantime.

This situation explains why the question of the railways had a particularly important place on the agenda for the Ministerial meeting in Luxembourg on 25th and 26th May 1988. On this occasion, the Ministers of Transport first gave a hearing to the Directors of the railways of the Conference's 19 Member countries, a hearing that was in fact the first of its kind and which established a genuine international dialogue between policy-makers and those who manage the railways, meeting together around the same table for the first time to hold an in-depth exchange of views on the future prospects of rail transport and specific solutions to those problems in most urgent need of a response. Consideration was given to the following matters in particular:

- Measures to achieve a significant increase in rail productivity;
- The scope and limitations of combined transport;
- Means of resolving the problem of the excessive indebtedness of railway undertakings;
- The potential offered by electronic data processing and transmission, the new technologies and high-speed services;
- International co-operation among the networks;
- The need for a commercial approach to customers;
- Harmonization of the terms of competition, with particular reference to infrastructure.

During its 67th Session the Council of Ministers also adopted a number of reports drawn up by the Ad Hoc Group on Railways in accordance with the terms of reference assigned to it in 1985, reports that were finalised by the ad hoc Group at a meeting in March 1988 and which draw attention to the deterioration of rail's position on the international market and make a critical assessment of the steps taken by the railways to implement the recommendations put forward by the ECMT in 1985. With a view to increasing rail's competitiveness, these reports advocate a whole series of measures which primarily involve:

- Endeavours to determine a commercial structure geared to international traffic and a greater degree of co-operation among the various networks;
- The reduction of costs;
- Greater use of information technology and, more particularly, the HERMES system;
- The development of high-speed passenger rail transport, the construction of new lines, etc.

The submission of these reports enabled the Ministers to give detailed consideration to the high-speed lines completed and planned in Europe, and they pointed out that the construction of such a network for passenger traffic offered the railways an unprecedented opportunity. They were also of the view that developments in the field of information technology opened up new prospects for the railways, provided that they were able to strengthen their international co-operation, market their services more efficiently and substantially reduce operating costs.

Following the discussions the Council requested that a draft Resolution be prepared promptly with a

view to ensuring that the recommendations made in the reports examined in Luxembourg were set out on a more formal basis.

Accordingly, the Ad Hoc Group drafted a Resolution at a meeting in October 1988 as requested, and it was adopted by the November 1988 Session of the Council. This Resolution, addressed to both the railways themselves and the Authorities responsible for them, recommends a range of measures, some being specific to international traffic where the railways are urged in particular to:

- Make greater use of market research techniques and marketing methods;
- Develop forward-looking studies, laying particular stress on technological innovations;
- Prepare truly integrated international tariff structures;
- Rationalise operations to cut costs and reduce waiting times at frontiers;
- Develop an international high-speed network where this is warranted by the potential volume of traffic;
- Improve information techniques, primarily by making greater use of the scope offered by the HERMES system;
- Increase their co-operation by developing forms of collaboration whereby they are seen as the sole intermediary vis-à-vis the customer.

Other more general recommendations relate to the modernisation of the railways and, in this connection, the Council of Ministers stressed the need for them to concentrate their efforts on segments of the market where they can be competitive, carry out the necessary structural reforms, and take stringent management measures which may include the adjustment of manning levels to real requirements, streamlining of decision-making channels and the establishment of intensive personnel training schemes, etc.

The Council of Ministers also considered that it was for governments to ensure that they did not obstruct the efforts made by their railways, which would require in particular that they take the necessary steps to give the railways the greatest possible independence in running their own affairs, reducing their indebtedness where necessary and eliminating distortions of competition and any remaining obstacles to frontier crossing.

In its conclusion, the Resolution adopted by the Council gave the Committee of Deputies a remit to monitor the implementation of the provisions nationally and also to initiate a number of specific activities. Accordingly, the Committee of Deputies assigned the following work to the Ad Hoc Group on Railways:

- To continue to monitor the application of the Resolutions adopted by the ECMT in connection with the railways, laying particular stress on the weak points with respect to application as shown by the reports submitted in Luxembourg, namely the harmonization of costs, allocation of revenues, predominance of the concept of common interest, etc.;
- To study the current prospects for individual wagon traffic and consider the possibility of introducing automatic coupling for wagons carrying goods which cannot be forwarded by block trains;
- To make a thorough analysis of the future challenges for the railways, drawing attention at an initial stage to the problems arising for them in the light of the Community's 1992 deadline and, in a second phase, undertaking a forward-looking study on the railways of the year 2040. Such a study, based on demand projections, should primarily give careful consideration to the scope offered by the new technologies.

B. ROAD SAFETY AND ROAD TRAFFIC RULES, SIGNS AND SIGNALS

It has long been the practice of the ECMT Council of Ministers to keep informed of the most recent developments with respect to road accidents and casualties in the various member and Associate Member countries of the Conference, and a statistical report is drawn up for the Council's Autumn session on the basis of country submissions, a report which at that time includes figures for the previous year that are still provisional but which is subsequently revised in the light of the final data and is then issued as part of a special series of ECMT publications.

Given the time at which this annual report is published, the statistics in question do not of course have the same topical interest as at the time they are submitted to the Council, but it seems worthwhile to review the main findings.

The overall total for 1987 for the ECMT, i.e. the 19 Member countries taken together, shows a slight

improvement over the preceding year with falls of 2.4 per cent in fatalities and 1.4 per cent in casualties (still a provisional figure), whereas the car population continued to increase as was the case in previous years. This overall result needs to be qualified somewhat, however, first because the figure itself seems to be quite modest although the trend of course differed across countries, but mainly because it is obtained by comparison with 1986 when the results were particularly bad and not even half of the points lost in that year – expressed in indices – have been made up. Furthermore, the initial figures available for 1988 unfortunately suggest that the situation has deteriorated in most Member countries. Accordingly, after a period of continuous improvement, the recent past has been marked by fluctuations which no doubt reflect a somewhat fragile situation that is apparently difficult to bring under control, thus showing how important it is to pursue the endeavours made in all respects, and strengthen the commitments undertaken both at national level and in the form of international co-operation which the ECMT seeks constantly to promote.

As already pointed out in the previous Annual Report, the Conference's desire to increase the awareness of all concerned in the sphere of road safety prompted it to go beyond the normal framework of its work to organise a special seminar on what it now regards as the central issue in road accidents, namely the role of the human factor. Accordingly, when the International Fair on Traffic and Communications was being held in Hamburg (Federal Republic of Germany) an international seminar was organised from 1st to 3rd June 1988 on the topic: "Road Safety: First and Foremost a Matter of Responsibility".

The aim of the Seminar was to determine the measures to be taken to increase each road user's awareness of his own responsibility and to make public opinion and the professions concerned in society more responsive to the problem. It was not therefore to be especially academic in character but, consistent with the ECMT's vocation, be oriented towards further action and, more specifically, towards giving fresh impetus to policies for the prevention of road accidents. The Seminar was specifically planned with an interdisciplinary approach in mind, moreover, so as to open up a dialogue between the many specialists involved in implementing an overall road safety policy: psychologists, sociologists, doctors, engineers, lawyers, teachers, journalists, specialists in the media and all other persons concerned with shaping decisions in this connection.

The programme for the Seminar included the following:

Working session on the individual's own responsibility:

- a) The role of human behaviour: psychosociological aspects;
- b) The particular problem of drinking and driving;
- c) To what extent can technical means influence human behaviour?

Working session on the responsibility of the community:

- a) Adequate road safety training: principles and methods;
- b) Media activity to promote road safety;
- c) Methods of monitoring/enforcing compliance with regulations, and the impact of such methods.

Each topic was introduced by means of a background report presented by its author, followed by a general discussion which was summarised for each working session and used as the basis for a panel discussion among a restricted group of specialists involved in policy decision-making. At the end of the Seminar, the Chairman of the ECMT Road Safety Committee drew a number of conclusions for operational purposes. All the background reports, summaries of discussions and operational conclusions are included in a special publication issued by the Conference early in 1989.

In pursuing its regular work in 1988 the Road Safety Committee focussed in particular on the wearing of seat belts in order to submit a further draft Resolution to the Autumn Session of the Council of Ministers, a Resolution that forms part of a logical sequence of developments from the moment in 1973 when the Council decided to promote the fitting of seat belts in cars as an initial stage and, five years later in 1978, to make it compulsory to wear seat belts in the front seats of cars. Other measures were also taken in this connection, more particularly for the protection of children travelling in cars.

In the meantime, research has been carried out under OECD sponsorship and, in the light of the findings and the experience acquired in member and Associate Member countries, attention may be drawn to a number of points which, moreover, are also reflected in the new Resolution.

The first point, for example, is the unquestionable effectiveness of the seat belt which reduces by at least one-half the risk of car occupants being killed or injured in a road accident, and these significant advantages apply to persons in the rear seats as well as those in front. However, only a small number of Member countries has so far made it compulsory to use a restraining system in rear seats. Lastly, it should be emphasized that it is

not enough simply to lay down legislation requiring the wearing of seat belts since steps must also be taken to promote their use in practice.

In order to ensure that the rate of use of seat belts is as high as possible – it would seem that rates of 90 per cent or more can be achieved – one can of course apply penalties or technical means and campaigns to motivate and inform users, but studies have shown that the attitude of users towards seat belts becomes more permanently positive when the relevant regulation covers all possible situations, i.e. when it forms part of a comprehensive pattern of behaviour.

It was precisely with a view to gradually establishing such a comprehensive pattern that the Council of Ministers adopted the above-mentioned Resolution which specifies that all occupants of cars, whether in the front or rear seats, be they adults or children, must be protected by an adequate restraining system – in the case of children, adapted to their size, weight and age – and that the categories of person exempt from such requirements should be kept to a strict minimum.

The Road Safety Committee will continue its work in accordance with its medium-term programme, the main lines of which were set out in the previous Annual Report and which have been supplemented to some extent as a result of the international seminar in Hamburg.

The activities of the Committee for Road Traffic, Signs and Signals in 1988 may be briefly summarised as follows:

First, work continued on the two main topics set out in its programme of work, namely developments regarding rules of priority and regulations to govern the use of light vehicles in traffic, and secondly, the submission to the Luxembourg Session of the Council of Ministers in May 1988 of a report reviewing a number of individual aspects of problems relating to road traffic, signs and signals.

The Committee is also taking an active part in the revision of the Vienna Conventions which was initiated two years ago under the supervision of the United Nations Economic Commission for Europe in Geneva. In this connection, it has essentially adopted positions on the further action taken on the proposed amendments to the Conventions put forward by the ECMT in recent years. It has also given its views on the future structure of the Convention on Road Signs and Signals, and a particular aspect of its position here concerning a coherent relationship between road signs and signals and road infrastructure was the subject of a Recommendation adopted by the Council of Ministers in May 1988.

In its report to the Ministers, moreover, the Committee reported on the situation with respect to the application of Recommendations adopted by the Council of Ministers since 1974 and examined the application of domestic regulations to foreign drivers, and the use made of traffic lights to control traffic flows.

Lastly, the Council of Ministers adopted two further draft Resolutions, one concerning changes of direction and the obligation to allow other vehicles to pass, the other relating to signs for tourist attractions.

C. MULTILATERAL QUOTA

In 1988 the Council of Ministers was twice called upon to take a decision concerning the ECMT multilateral quota: first, at its Luxembourg session, it was unable to reach general agreement on the overall adjustment of the system or on the various options submitted to it for a new pattern of allocating licences among Member countries, since it was found that the restrictions imposed by a number of countries concerning the use of ECMT licences on their territory were regarded by other Member countries as a major constraint which prevented them from agreeing to further increases in the system.

After holding policy consultations with a view to resolving the deadlock, the Council was able to reach agreement at its Autumn session on an across-the-board increase of 20 per cent in the quota with a minimum of 16 additional licences for Greece, Turkey and Yugoslavia, thus increasing the ECMT multilateral quota from 966 licences in 1988 to a total of 1 179 licences as from 1st January 1989.

As in previous years, Austria limited the number of licences valid on its territory to 16 for each of the other Member countries, while Turkey and Yugoslavia maintained their reservations based on the principle of reciprocity.

D. COMBINED TRANSPORT

The growing concern for the environment, the increasing congestion on the roads and a developing hostility to even more lorry traffic all make alternative goods transport options a necessity. Combined transport provides one such alternative which is finding increasing favour among users. Whether in the transport of containers, swap bodies or semi-trailers, this form of transport can keep traffic off the roads with consequent environmental benefits and can also meet the economic and quality requirements of shippers. Combined transport use is growing rapidly but nevertheless much needs to be done before it has a truly important role in the total market.

In the spirit of examining exactly what needs to be done to make combined transport services more attractive to users, the ECMT was prepared a detailed report on the major European links. This detailed report, which is available from the ECMT Secretariat, has been widely disseminated among railways, piggy back companies and other concerned international organisations. A summary of the main requirements was presented to the ECMT Council in May 1988. The most important of these focus on improving the infrastructure and on speeding up total transport times. Ministers adopted the report and accompanying Resolution and demanded an active follow-up to check that the necessary measures were being implemented.

The ECMT working group is now examining a number of other subjects. First, the completion of the Single Market in the EC poses a number of important questions about the strategy that should be adopted towards combined transport. Studies show different kinds of consequences and it is not completely clear what the effects of growing liberalisation will be on combined transport. Nevertheless, the strategic question needs to be examined and a ministerial discussion on the subject is being prepared.

Second, the vital and highly political issue of unit load dimensions is being examined. New, ever larger dimensions are emerging for containers and other equipment which threaten to go beyond the technical capabilities of existing road and rail infrastructure. Before the international standardisation organisations make recommendations on new norms, it is essential that the considered views of European Transport Ministers are taken into account. The Working Group is preparing a presentation to Ministers on this subject. The purpose is to ensure that binding long term decisions are not taken without a careful study of the impacts, especially for the railway, of new unit load dimensions. In particular, it is important that any such decisions facilitate the further development of combined transport.

A third subject being examined is the range of new technical ideas appearing in several countries to make combined transport more efficient. In the first instance, this subject is being studied so that information on the technical developments can be shared. At a later stage, it may be necessary to examine the appropriate levels of technical harmonization which facilitate international combined transport use. At present, a rich variety of experience is under way and it will be both interesting and valuable to share these experiences among ECMT Member countries.

Finally, in its work on Combined Transport, ECMT tries to ensure that close working ties are established with the EC Commission and with the UN/ECE as well as with the appropriate professional bodies. All efforts are therefore made to ensure that the work undertaken in ECMT is relevant and accurate and does not duplicate that being carried out in other organisations.

E. INLAND WATERWAYS

The last report submitted to the Council of Ministers concerning the situation and trends with respect to inland waterways and the fleet in ECMT countries dates back to 1983, a very detailed report which drew the attention of the Ministers to a whole range of problems affecting this mode of transport and to the development of infrastructure projects of interest to Europe as a whole, as specified in one of the initial acts of the Conference in 1953.

In view of the close links that the Conference maintains with the Central Commission for Navigation of the Rhine, the European Economic Community and the Economic Commission for Europe, all of which have undertaken major studies on these issues and on the structural overcapacity of the fleet in particular, some time elapsed before the ECMT resumed its work in this sector.

In Autumn 1987 the Committee of Deputies decided to ask the Belgian Delegation to assume the chairmanship of the ad hoc Group on inland waterways and instructed the Group to report to the Council of Ministers in due course concerning developments in this sector.

The Ad Hoc Group met on a number of occasions in 1988 to undertake the preliminary work which enabled it to draw up a timetable and an outline for a report which should be submitted to the Autumn 1989 Session of the Council of Ministers.

All ECMT member Countries bordering on the Rhine are taking part in the Group's work, while Austria and Luxembourg are also represented. A number of non-governmental international organisations have also said that, at a later stage in the Group's analyses, they would also like to make their contribution to the report in question.

F. TRANSPORT AND THE ENVIRONMENT

Concern for the state of the environment is growing worldwide. As the Secretary-General has established in his introduction, the effects of man's activities on nature's delicate balances are increasingly being scrutinised. Transport too is justifiably coming under the microscope. The enormous growth in vehicle numbers and in traffic in the last thirty years has undoubtedly had deleterious environmental effects.

Transport Ministers are perfectly aware of their responsibility to provide and facilitate mobility, to allow the free exchange of people and goods. Increasingly, however, they are becoming aware that the continuous growth in traffic is meeting with resistance from populations affected by noise or air pollution or by the general intrusion of traffic on their lives. In order to try and clarify the issues and to throw some light on the dilemma of the growing hostility to traffic on the one hand and the seemingly unending need for increased mobility on the other, ECMT Ministers of Transport have taken the important decision to dedicate an entire day during the ECMT November Ministerial Session in 1989 to the question of Transport and the Environment. This special session of the ECMT Ministers is being organised in close cooperation with the OECD where much valuable work has already been done.

At this stage, it is envisaged that the Special Session will treat three main themes. The first concerns the vehicles themselves and the possibilities that exist for reducing pollution at source. The valuable and detailed work in other international organisations can be used and built on with a view in the longer term to harmonizing standards across all of Europe. The second major theme is that of traffic management. Measures which can help the flow of traffic often have also environmental benefits. The use of 'environmentally friendly' modes can be encouraged. The focus of this theme will be on the search for simultaneously optimizing both traffic and environmental objectives. The third theme concerns the transport infrastructures. How and where roads and railways are built is now a controversial and difficult task. This theme will study how environmental factors can best be integrated into the processes of transport infrastructure planning and construction.

Preparation for this Ministerial is being undertaken through the ECMT Ad Hoc Group on Transport and the Environment. The background work is being greatly aided by a generous financial gift from the Government of Sweden. It is hoped that the Conference, in drawing renewed attention to the question will lead to further sustained attempts to reduce the harmful effects of transport on the environment without adversely affecting the level of economic activity.

During 1988, the Council of the ECMT adopted a significant resolution recommending the more rapid introduction of unleaded petrol throughout the ECMT. Many countries have already a very complete network of stations providing unleaded fuel but others have been slow to make such fuel widely available. The very rapid growth in the number of cars requiring unleaded petrol has increased the urgency of the task. This is especially so when the enormous increase in international tourist traffic is considered. This is a practical subject where the ECMT resolution can have a visible and beneficial effect. The texts of the resolution and the accompanying note are to be found in the second part of this report.

G. URBAN TRANSPORT

The Urban Transport Co-ordinating Group (UTCG) is one of ECMT's permanent working groups. This fact reflects the degree of interest in urban transport questions among the Member and Associated Member countries. Urban transport problems are universal and, despite the diversity of national transport systems and the variety of topographical and cultural differences between cities, these problems are remarkably similar. Congestion, parking difficulties and the size of subsidies to public transport feature in almost all cases as the major concerns.

During 1988, the UTCG finalised a report and cover note [CM(88)9] on urban transport financing. Based on the replies to questionnaires from member and Associated countries the report looks at the methods applied in different countries to finance public transport deficits. Issues examined include the centralisation or decentralisation of the organisational structures, the types of contracts that can be drawn up between the operators and the authorities, and a discussion of new possible sources of finance. The question of privatising public transport services in cities is also examined though experience so far is limited to a single Member country. The report was presented to Ministers at the May Session of the Council and was greeted with wide interest. It is a subject where the Associated countries experiences were seen to be of great relevance because of the variety of innovative solutions which have been tried.

The UTCG continued its work on subsidy comparisons, a technical and difficult task which could have political consequences since comparisons on subsidy requirements are frequently made but often without a solid methodological framework. It is intended to complete an illustrative list of comparisons during 1989 and use this as a basis for recommending further development of the subsidy comparisons model.

The group has decided to begin some work on light-rail systems. Many cities worldwide have introduced light rail systems as a means of providing cost effective solutions to their urban transport problems. However, some countries are finding that the systems appear to be more expensive and the passenger carryings less than originally forecast. Consequently, it was agreed that it would be useful to examine some examples of light-rail systems from an economic and socio-economic viewpoint. The objective is to see whether any useful lessons can be shared on planning, constructing or operating such systems.

The Group's work on the application of new technologies in urban transport is nearing completion. This work is being restricted to applications of new methods to improve the information available to public transport passengers. Detailed information has been compiled on applications in the home, in the street, in stations and in vehicles and it is hoped that the results will be presented to Ministers during 1989.

H. TRANSPORT FOR DISABLED PEOPLE

The subject is one where ECMT has been extremely active now for several years. Two major reports on international practice have been published and have proved useful and popular among experts in the area. These reports, 'International Comparisons of Practice and Policy' (ECMT 1986), and 'International Co-ordination and Standardisation of Measures and Policies to Promote Mobility' (ECMT 1987) are available from the OECD or from the national sales outlets listed at the back of the present report. A political impetus has also been given through the adoption by the ECMT of two important resolutions in 1985 and 1987. These resolutions are raising the level of awareness in ECMT countries about the transport problems faced by elderly and disabled people. Additionally, many countries have taken specific or more general measures to ensure that the needs and expectations of disabled people are being taken into account at an earlier stage in planning transport or related facilities. The implementation of these resolutions is being keenly followed and will be reported on during 1989.

A highlight of 1988 was the organisation by ECMT of an international seminar and exhibition on the subject of *Disabled People and Cars*. Cars are the preferred way of obtaining independent mobility as much for disabled as for able bodied people. All aspects of licensing and driving were examined. The audience included car manufacturers, adaptation specialists, representatives of organisations for disabled people, government officials and researchers. Four main themes were discussed and recommendations made: first as far as *Driver Licensing* is concerned the principle must be that licences for disabled people must always be made available on the same basis as for everyone else, i.e. the ability to drive safely. The second set of issues concerned the

incentives to help people to drive. While financial incentives vary between countries, it was concluded that they should not be dependent on the employment status of the disabled person. As far as other incentives are concerned, there is a strong need for impartial and objective professional advice on vehicles and adaptations. The third question was that of *Safety* where it was agreed that professional standards for repair and maintenance of adaptations were essential; this should be carried out in accordance with a code of good practice. The fact that in each country the market for adaptations is relatively small led to the fourth series of recommendations. *Trade restrictions* should be reduced to allow the creation of a large market and a wider choice for the consumer. Mutual recognition between member States of type approval and other technical vehicle standards would also help. The publication of the papers, the discussion and the conclusions from the Seminar is available from the OECD Sales Office, 2 rue André-Pascal, Paris 16, or from the national sales Office listed at the back of this publication. These conclusions are now being examined concretely and in detail by the ECMT Ad Hoc Group with a view to making recommendations to Transport Ministers on the subject.

To coincide with the Seminar, an exhibition of the most up to date technology available to aid disabled motorists was held. This attracted keen interest and allowed vehicle manufacturers and adaptation specialists to demonstrate to the experts and to a wider audience the growing range of possibilities.

A further highlight of the year was the holding, at the kind invitation of the German Government, of an ad hoc Group meeting in Munich. This allowed the Group to see at first hand the progress being made in city bus design and in the adaptation of public transport facilities to cater for the needs of disabled people.

The Group is working in detail on a number of subjects on which presentations will soon be made to Ministers. First, accurate journey information is important to all travellers but is especially crucial to disabled people who indeed are often deterred from travelling because of uncertainty about arrangements. The experience of Member countries is being accumulated and recommendations prepared. Second, further detailed studies on the cross-sector benefits of accessible transport services are being carried out. These benefits relate to the savings in costs that can occur in non-transport sectors through the provision of accessible transport services. This is politically important since it has consequences for the resources to be given to providing accessible transport services. Third, the pedestrian environment is being examined. While the built environment is often outside the legislative competence of Transport Ministers it is crucial that it too be accessible. Otherwise, accessible transport services are almost pointless. A leaflet showing good practice is being drawn up to help in this regard.

Finally, the Group has strengthened its working links with the European Communities through a programme of research on financing and administrative arrangements for transport for disabled people. Also close working relationships have been set up with the International Civil Airports Authority (ICAA) and the International Association of Public Transport (UITP). These close links contribute to ensuring a coordinated international approach to the question and eliminate work duplication between international organisations.

I. TRANSPORT, COMPUTERS AND TELECOMMUNICATIONS

This immense and diffuse topic has been the subject of a specialist ECMT Ad Hoc Working Group since 1984. This Group has presented several reports to Ministers on different applications of new technologies. Previous annual reports describe these reports. The Group has either referred specific topics to expert subgroups or has asked existing ECMT bodies to examine the issues raised. For example the Railways Group and the Urban Transport Co-ordinating Group have treated aspects of the application of new technologies to railways and urban public transport respectively.

During 1988, the ad-hoc Group began to examine a subject whose long term consequences can be immense but where, for the present, no clear political vision is held. This concerns the development of what might be described as intelligent traffic. The technical possibilities to improve safety, to increase capacities and to use efficiently existing infrastructures appear to be enormous. Several ambitious and expensive programmes are already under way, either through the auspices of other international organisations or through the vehicle manufacturing industry itself. It is essential that the views of Governments on these projects are well formulated and that Government requirements are built in at a very early stage. There is also a strong need for co-ordination of activities between such projects and between Governments. The applications are now so evidently international that such co-ordination should be a precondition. ECMT work on this subject will try to

provide a forum for Governments' views to be heard and for the development of a harmonised approach between countries.

An expert subgroup of the ad-hoc group has been working on the systems of communication between vehicles and road authorities. The work concerns particularly the way digital information on road conditions or on accidents for example, can be sent to and understood by drivers of all nationalities. The ECMT has developed the outline of a coding system which describes in a standardised way the locations, hazards and warnings likely to be encountered. This permits the information to be transmitted digitally and received by a car radio. Special equipment within the car-radio will translate the message into the drivers own language allowing him to act efficiently and promptly. During 1988, in close co-operation with the EC, important refinements were suggested to the existing ECMT model. These improvements are to be tested in field trials which will begin during 1989. Only after such field trials can a clear view be taken of the difficulties and potential in this area. In this work, ECMT has greatly benefitted from the active and expert cooperation of industry representatives. This is a concrete subject where agreement can provide tangible and practical results to the benefit of European traffic.

J. ACTIVITIES IN THE FIELD OF STATISTICS

The Chairman of the Group of Statisticians submitted to the Committee of Deputies' January 1988 Session a report on the Group's activities since it was set up in 1985 and he took stock of the progress made in the work assigned to the Group which had:

- Begun to draw up a glossary giving the precise definitions and scope of the data included in the ECMT publication: "Statistical trends in transport";
- Decided to compile data on freight traffic between Member countries in the form of origin-destination matrices;
- Started to examine methods of evaluating traffic in transit, more particularly by assessing the advantages and drawbacks of the two possible methods of recording data, namely by the transit country or by the countries of loading and unloading.

The Group of Statisticians met in April 1988 and continued its work during the year with a view to implementing the terms of reference it had received from the Committee of Deputies:

- Having finalised the "roads" section of the glossary in 1987, the Group made very substantial progress in preparing the section on "railways".
- The Group began to take note of the differences in the replies from the various countries to questionnaires concerning international goods traffic by rail and road, differences that assume major proportions in many cases and are attributable in particular to disparities in methods of recording traffic. With a view to being able to prepare origin-destination matrices for future international traffic which are based on the most homogeneous data possible, the Group decided to carry out a survey of statistical sources used for the data on international traffic published in ECMT's "Statistical Trends in Transport".

The Group made a more thorough examination of the sources which are available or might be used to compile statistical data on international traffic in transit. In order to make further progress in this connection it will certainly be necessary to conduct a survey specifically to ascertain the scope of the statistical machinery in the various individual countries.

In accordance with its terms of reference, the Group has taken steps to ensure that there is active co-ordination of the ECMT's statistical work and that done by both the UN Economic Commission for Europe and the Statistical Office of the European Communities (SOEC), an approach that has primarily involved reciprocal invitations to representatives of the Secretariats of the three Organisations to attend meetings of the particular bodies concerned with transport statistics.

Under the supervision of the Group of Statisticians, the Secretariat has continued to improve the layout of publications and the production processes, focussing particularly on cutting the time taken to issue them. Accordingly, the following were published in 1988:

- The volume of "Statistical trends in transport" covering the period 1965-1985. Like the previous issues, this publication first reports on the main trends ascertained from the statistical data available and analyses them with the help of charts, graphs etc. It also contains a large number of statistical tables on investment, traffic, equipment and infrastructure, energy consumption, etc. for the various modes of transport. In accordance with the aim to achieve an appreciable reduction in the time it takes to issue the statistical data, the next volume of "Statistical trends in transport" (1965-1986) was prepared and finalised during 1988 for publication early in 1989. The tables in this edition differ in a number of respects from those published in previous years insofar as additional data have been compiled. Section I of the Statistical Tables, now headed "Transport Sector: Main Economic Indicators", includes data on Value Added and Gross Fixed Capital Formation in the transport sector and also on employment in the sector. A number of new tables have been introduced to throw more light on international flows of traffic, and they relate in particular to international passenger traffic by rail, goods unloaded following international transport by rail and by road and also goods in international transit between two rail networks. Similarly, for the first time, origin-destination matrices have been drawn up for international transport by inland waterways and by sea;
- The annual leaflet on trends in the transport sector, covering the period 1970-1987, was submitted to the November Session of the Council of Ministers. It essentially describes the situation of the transport sector in 1987 - passenger and freight traffic, road safety - and, with the help of charts, shows the changes that have occurred since 1970. A major advantage of the leaflet is that it is published earlier than any other comparable study. The text is reproduced in the second part of this 35th Annual Report on the Activity of the Conference.

The efforts continued during 1988 with a view to using information technology for compiling and processing the statistics published by ECMT, and the database used to prepare the annual leaflet was fully computerised by means of the Lotus software on microcomputers. This software, likewise employed for the initial questionnaire, was then used to carry out all the calculations and plot the graphs required for the 1988 issue.

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Chapter III

ECONOMIC RESEARCH AND DOCUMENTATION

A. OVERVIEW

Since 1967, the ECMT has had the research and documentation structures needed to provide detailed analysis for policymaking.

It is the Economic Research Committee (ERC) that programmes and prepares the activities of the Economic Research and Documentation Division. The Committee is regularly informed of progress with the preparation of meetings and their outcome.

The activities of the Economic Research and Documentation Division comprise:

- a) *Symposia* which are held every three years and attract a wide audience of prominent figures from the transport field (research, operation, government departments, users, personnel: +/- 400 participants).
The ERC defines the general topic and sub-topics for a symposium; it selects the session chairmen and rapporteurs.
- b) *Round Tables* which are held four or five times a year, except in the year of a Symposium. At the Round Table a limited number of highly-qualified specialists (+/- 24) studies a specific topic in detail on the basis of one or more background reports. The topics for Round Tables are defined by the ERC.
- c) *Seminars* which are ad hoc meetings on topical subjects and are intended for quite a wide range of specialists (+/- 100). A proposal to hold a Seminar may come from quite different sources; it is submitted for approval to the ERC which draws up the organisation plan for the Seminar.
- d) *Regional Round Tables* which are held at the initiative of one or more Member countries when they consider it useful to study from their own angle a subject that has already been discussed at a general Round Table.
- e) *Documentation* which is managed by a Management Group consisting of economists and documentalists. A report is periodically submitted to the ERC which defines the objectives for the computerized system of International Co-operation in Transport Economics Documentation (ICTED). The work done in this context involves the permanent supply of input for the bibliographic database (TRANSDOC) which can be accessed by users throughout the world via telecommunications networks.

A consistent programme of research topics must have a sufficiently long lifespan and, in practice, the ECMT's programme covers a three-year period and includes the topics for one Symposium and twelve Round Tables.

The following Round Tables are scheduled for 1989:

- Round Table 80 on: "Systems of Infrastructure Cost Coverage" (Road Pricing, Principle and Applications);
- Round Table 81 on: "Possibilities for, and Cost of, Private and Public Investment in Transport";
- Round Table 82 on: "Measures (Other than Infrastructural Investment) to Promote Transport at Regional Level";

- Round Table 83 on: "The Role of Government in a Deregulated Market (Access, Competition, Safety)".

In 1988 the Secretariat was also engaged in preparing the Eleventh Symposium on Theory and Practice in Transport Economics, which was held in Brussels on 12th to 14th September 1988 on the topic "Resources for Tomorrow's Transport".

Two Round Tables were likewise held in 1988, namely Round Table 78 on: "Telematics in Goods Transport" and Round Table 79 on: "Environmental Considerations in the Evaluation of Transport Projects".

B. 11th INTERNATIONAL SYMPOSIUM ON "RESOURCES FOR TOMORROW'S TRANSPORT"

The Symposium brought together some 400 representatives of research bodies, government departments, international organisations and transport operators and users' organisations.

The general topic for the Conference's Eleventh Symposium was "Resources for Tomorrow's Transport". It was broken down into the following five sub-topics: The main European links; Maintenance and renewal of infrastructure; Financing of transport system operations; Quality of life and social costs; Logistics and information technologies. Each of these topics was introduced by three reports.

Considerable time was devoted to discussions between participants and panel members, which resulted in the determination of the main research trends in transport economics for further review in the transport policy context.

1. The main european links

[*Rapporteurs*: MM. J.P. Baumgartner (CH), F. Boels (B), M. Massoni (F)].

International trade cannot continue to expand unless the infrastructure needed to handle it is available. As matters now stand, bottlenecks threaten to develop by the end of the century, thus giving rise to a loss of economic efficiency owing to escalating transport costs. Higher fuel costs, more and more time wasted and less profitable utilisation of vehicles will mean that higher stocks of manufactures have to be held, while at the same time geographical areas of markets will contract, so international trade will itself be curbed in the longer term. While there are technical means of ensuring that infrastructure capacity is used more efficiently, their effect is limited. The problems of saturation occur at particular points for a certain time, and the relevant solutions are along three lines. First, the price mechanism must play a part where infrastructure use is concerned, especially during traffic peaks when prices should reflect real costs. Secondly, one mode of transport might be replaced by another if there is spare capacity and the quality of service is comparable. Thirdly, investment can be made in capacity itself, provided an analysis is made of the economic and financial implications. The potential future return on the investment must be ascertained, of course, by comparing toll revenues with investment and operating expenditure.

Given the tighter budget constraints in most Member countries, the public sector is being forced to seek sources of finance other than government funding for projects. Private sector financing should be envisaged and used selectively so that optimal use is made of both public and private funds. The Channel Tunnel is the kind of infrastructure project that is attractive to the private sector, although it is not necessarily to be used as an example for other transport infrastructure investment. The future will probably see a whole range of financing schemes tailored to the requirements of the various types of investor. Attention should here be drawn to the rail projects now in hand or already approved in many countries. Major investment is being, or will be, undertaken in rail infrastructure and is essential to the future of the European railways.

Symposium participants underlined the need for a common transport policy and, more particularly, for international planning of investment. Complementarity between modes could then be achieved, bringing with it a better quality of network and improved transport fluidity. One of the main conclusions of the Symposium was that economic growth will be accompanied by a development in international transport and that present infrastructure capacity will not permit one single mode to absorb this increase. There is therefore a need to study investment requirements and the possibilities opened up by road pricing and new technologies, as well as information systems on road traffic conditions.

2. Maintenance and renewal of infrastructure

[*Rapporteurs*: MM. J.T. Caff (UK), C. Kaspar (CH), W. Winkelmanns (B)]

Statistics show that in the past ten years, investment in infrastructure has followed a downward trend in the ECMT countries. Since 1980, the rate of expenditure on the maintenance of road infrastructure has not kept pace with the growth of road traffic. Should this continue to be the case, an imbalance can be expected between the growth of traffic and that of infrastructure in the longer term. At present, resources devoted to the maintenance of infrastructures are, in a number of cases, insufficient.

On examination of the future of the different modes, it is found that inland waterway transport hinges essentially on its ability to adapt to shippers' logistical requirements. The trend is towards the use of container and roll-on/roll-off vessels and increasing specialisation. It is also necessary to invest in multi-purpose terminals in order to improve the productivity of this mode of transport.

Most of the existing railway infrastructure dates from the 19th century, whereas customers' needs and transport techniques have evolved considerably. A share of the market has therefore been lost to competing modes, thus highlighting the importance of investment in new infrastructure such as high-speed lines.

By their very nature, estimates of infrastructure requirements are complex; passenger travel is not an end in itself but is determined by the sum of individual activities. Moreover, infrastructure investment has many economic repercussions; besides contributing to economic growth by facilitating trade, it can also serve to protect the environment and to increase passenger safety. Investment has to be selected in the light of these various criteria. As financial resources are scarce, it is not possible to finance every feasible investment project, so a specific methodology is needed to ensure that the optimal choice is made.

3. Financing of transport system operations

[*Rapporteurs*: MM. F. Fernandez Lafuente (E), L. Hansson (S), J.M. Lengrand (F)]

In a free-market economy, supply and demand are matched by competition harmonized by government measures, the enterprises being responsible for strategic decisions. The financing requirements of enterprises are therefore determined by their management methods and by the way they use their inputs. Enterprises likewise have to be able to adapt to changes in the economic and social environment. In the case of road hauliers, there is a striking lack of managerial training among small operators. Accordingly, one possible course of action would be to group small operators around management centres; this would enable them to make the best possible use of their resources and would give them access to external resources on terms comparable with those enjoyed by major operators.

While harmonization of the terms of intermodal competition remains an objective that is still to be achieved, the railways must try to make their operations more efficient and gear them better to market requirements so that their reliance on subsidies does not increase. The funding requirements of urban transport rose steeply during the 1970s owing to urban change and, more particularly, the shift of population to the suburbs made possible by the increase in the number of car-owning households. The cost of private car travel remained stable, moreover, whereas that of public transport rose in line with wages. To avoid the dispersal of activities and inner city decay, it is necessary to provide adequate public transport services, particularly rail services. Transport policies will only be effective if they are integrated into urban and business development plans and take the necessary long-term view. Fare structures should be geared to the various segments of demand. Lastly, tendering procedures and programme contracts should specify the respective roles of the organising body and the operator, thereby providing for a more efficient use of resources, since the public authorities can undertake to cover deficits that are the direct outcome of its policy choices and does not have to pass them on to the operator, whose job is to raise productivity.

4. Quality of life and social costs

[*Rapporteurs*: MM. P. Dubus (B), W. Rothengatter (RFA), F. Van Ouwerkerk (NL)]

At present, levels of safety differ greatly from one mode to the next. An analysis of transport costs shows that, in Belgium as in other countries, road accidents account for over 99 per cent of the total social costs of transport accidents.

Safety policy must take account of a range of factors such as human behaviour, infrastructure/vehicle

adaptation, and the environment. The social and economic cost of road accidents includes lost production, psychological damage, medical treatment for the injured, damage to property, the cost of policing highways and of rescue services, legal and insurance costs which, overall, can be estimated to have been equivalent to 2.5 per cent of Belgium's GDP in 1983. The social costs of road accidents are comparatively very high and show how difficult it is to implement effective safety measures in an area in which the human factor plays such an important role. In contrast, safety has long been an integral requirement in the running of the railways, and rolling stock and infrastructure are maintained to stringent standards.

A complete assessment of road traffic costs should also take account of disamenities such as pollution, noise and the impact on land use. It is often difficult, moreover, to establish a causal link between pollutant emissions and damage to the environment – which is why the scale of the problem was under-estimated for a long time – so any progress made in protecting the environment will mean that resources can be conserved for the future.

Discussions showed that it is impossible to devise a common transport policy without international harmonization of the values to be attached to pollution, road congestion and the loss of human life. Research in this area is necessary. Transport safety and, generally speaking, “nuisances” will be the main preoccupation of transport policy. It is most probable that these aspects will predominate in future discussions.

The driving hours of lorry drivers are one of the factors that affect safety and the quality of life of those concerned. Studies show that lorry drivers often work long hours and have very short rest periods. The effects of these specific working conditions on lorry drivers' health are not known and further research is required. As for the impact of long working hours on safety, it has been shown that, over fourteen hours, the risk of accident is doubled. Regulations should therefore also seek to limit the number of working hours and not simply the driving hours.

Overall, Symposium discussions showed that, if particular attention was given to negative transport externalities, or to particular modes, analysis of socio-economic gains should be undertaken on productivity gains or the benefits of increased mobility.

5. Logistics and information technologies

[*Rapporteurs*: MM. P.J. Hills (UK), F. Sabria (E) and H. Stabenau (RFA)]

Demand for logistical services is expanding rapidly in freight transport. New services such as invoicing and warehousing are required, as well as improved reliability, flexibility and punctuality. The higher transport costs entailed by these new requirements are more than offset by the savings accruing from the optimisation of the production and distribution chain. Logistical systems are thus an important resource for both present and future production and distribution. Logistical objectives can be met only by implementing advanced information systems serving several enterprises and controlling their production cycles. The features of these information systems and logistical services differ according to the needs of the enterprise. In the future, enterprises will have to co-operate within common information systems, so governments will have to face the problem of ensuring that the equipment and systems architecture are compatible. Standardization is therefore needed so that the systems can be exploited to their full potential. Personnel also have to be trained to ensure that the introduction of logistical systems is not held back because the skilled manpower is unavailable. Technical progress will produce more accurate, more complete and cheaper information. Logistics will also increase the complementarity of modes, each specialising in its best field. Such developments show that transport and telecommunications are complementary.

It should be emphasized that any efforts to normalize, introduced too early, would only delay technological progress. Moreover, advances in information systems can cause confusion should these become too numerous. It seems therefore that the policy chosen in this connection should be selective.

Technological progress has effects in many areas. Automation will continue to advance, for example, encouraging the adoption of automatically-controlled public transport systems that have the major advantage of being very flexible. Innovations are also feasible in road traffic control and in vehicle technology. These developments will help to reduce the disamenities and adverse external effects generated by road traffic. Passenger information will improve for all transport modes. To sum up, technology is currently making rapid progress and the question therefore arises as to whether market mechanisms enable us to exploit it to the full.

ROUND TABLE 78: "TELEMATICS IN GOODS TRANSPORT"

Background papers for this Round Table were prepared by Mr. Cooper (United Kingdom), Mr. Fribourg (France) and Mr. Wandel (Sweden).

1. The dissemination of information technology among goods transport enterprises

There are important differences between the computerization of industrial sectors and that of transport since, to cope with world-wide competition, industry allocates resources not only to research and development but also to logistics where significant productivity gains can be achieved. By way of comparison, studies of the degree of computerization of road haulage undertakings show that the latter tend to computerize invoicing and accounting rather than complex operations such as the optimum allocation of vehicles or the routing of vehicles for picking up or delivering goods.

In future there will probably be a lower threshold at which firms will decide to make use of information technology facilities or telematics services. Technological advances in modes of transmission and the diminishing cost of equipment are major factors in dissemination. It may be concluded that there is considerable potential for the use of information technology in the transport sector and that it is difficult to assess all the longer-term effects. The smaller firms will turn to equipment that takes care of their accounting and gives them access to terminals for general information concerning, for example, traffic conditions or regulations. Access to services for computing cost prices will alter the behaviour of many firms that are unused to such practices. The introduction of freight clearing houses and electronic mail-box services will mean that videotex is more widely used.

As matters now stand, however, there is a sharp distinction between the road haulage firms that are trying to benefit from information technology and those still using a conventional approach. The size of the undertaking is a decisive factor, as small operators do not have the opportunity to exploit telematics for specific purposes, and their activities are limited to general haulage services, often on a local basis. There is a risk that the dual character of the profession will become more marked with the impact of information technology, and this will be accentuated by liberalisation. The larger undertakings are preparing for Europe-wide transport networks whereas what the smaller ones can offer is limited. Telematics systems can clearly help to bring out the complementary nature of undertakings more clearly. The logistics of the larger firms is already based on association with smaller operators for freight haulage. Information technologies will facilitate the organisation and establishment of such agreements. In any event, smaller operators will still have a role to play in the economy, especially in local markets. It is also conceivable that sufficient progress will have been made in information technology to enable small and large operators to work together efficiently, with computer techniques ensuring vehicle routine and scheduling and the necessary liaison between the partners. It would seem unlikely, however, that small firms will be inclined to set up such networks.

It is more difficult to see what the future offers for medium-sized undertakings, which will find it hard to compete with major operators with the facilities needed for large-scale computerization and the medium-sized firms will not, moreover, be as competitive as the smaller ones. No clear-cut trends can be seen in demand, and a fragmented sector may very well cater for the range of future transport needs. The medium-sized undertakings will probably have no other choice but to specialise in particular segments of the market.

With the advent of the European Communities' 1992 deadline, operators in the various countries will be tempted to co-operate to establish transport services on a scale required for the single market, and it will be essential to have international telematics systems capable of ensuring the transmission of technical and commercial data. The lack of compatibility between the systems of the various countries may very well prevent such a development and leave the bulk of the market exclusively to those undertakings which have the resources needed to set up a European transport system on their own.

The railways use information technology for internal purposes to allocate equipment and personnel and are not sufficiently open at present towards commercial partners in the transport chain. It is, in fact, logical that priority should have been given to internal applications (monitoring and advance reporting of trains) where the largest gains in productivity can be made for a tracked transport system. The current international co-operation is essential if these technological advances are to be used for the purpose of international routing.

2. “Just-in-time” Transport services and transport chains

The essential features of logistics today are just-in-time services and the five zeros: stock, time-lag, manufacturing fault, incident, and paper. Telematics systems are used to transmit technical and commercial data in parallel with the transport flows. The cost of information and its transfer is diminishing, while the opposite is true for stocks of products, so stocks will certainly continue to be replaced by information. Moreover, the sophistication of products and their specialised nature in terms of markets means that manufacturers are moving towards demand-responsive production.

Analyses have shown that a country’s economic performances depend on the rate of flow of goods and the low levels of buffer stocks held. In this context, information is a production input. A new dynamic pattern is being introduced and systems of production are moving towards specialisation in logistic units.

This introduction of systems of logistics is accompanied by radical changes in the organisation of transport operations and within the transport sector. Services are becoming more diversified (handling, sorting, stocking, warehousing) and specialised. The roles of those concerned are being redefined and the organisation of systems of logistics is a challenge.

Where logistics are concerned, priority is currently being given to requirements of flexibility, rapidity and reliability of transport operations. The concept of mass transport is being replaced by that of consignments to meet production requirements or demand. Such consignments are increasing, together with the number of vehicles in circulation. Accordingly, the logistical organisation is based on low cost transport. The system of logistics therefore relies on the adaptability of road hauliers, although the limits for the future are foreseeable. There is insufficient road infrastructure capacity to handle without congestion the increases in traffic now being experienced. Toll systems will be used more widely to finance the additional capacities required. At the same time, the increasing internalisation of externalities will push up road transport costs. Harmonization of the terms of competition among modes will lead to reduced working hours in the road transport sector. Improved techniques will make it easier to take more detailed account of infrastructure costs. All these different factors will contribute to an increase in the cost of road transport, an aspect that will have to be integrated in the systems of logistics. Efforts will be made to make the organisation of transport operations more rational, which will tend to be to the advantage of the carrier for hire or reward who can group consignments and so limit the number of incomplete loads.

Air transport is suitable for the carriage of strategic or high value-added products (medicines and drugs, spare parts, computer components), since the geographical dispersion of markets and the time requirements preclude any other mode. Air freight is steadily expanding and this should continue with the diversification of products and dissemination of technologies.

Given their regularity and speed, the railways can become an integral part of the logistics organisation of industrial firms, more particularly by means of block trains, a case in point being the establishment of direct links with no time lost in marshalling. The challenge for the railways is to bring the services offered up to the level of the system of logistics as a whole.

3. EDI, telematics and standardization of data

Data processing facilities are increasingly designed as tools for exchanges, and the computer is no longer used solely for internal purposes but is a means of communication. Persons working together in complementary sectors need to exchange data and there is an increasing need for interconnections.

If appropriate networks and standardized languages are not available, only the largest undertakings will be able to design and set up entire communications systems, while the smaller ones would be excluded or left with only the possibility of adjusting to techniques that they have not chosen themselves. In this connection, the operator who takes the initiative has the advantage of imposing his standards on his partners.

Accordingly, the aim of standardization is twofold: first, to establish networks and languages satisfying essential qualitative requirements and, secondly, to make these networks and languages accessible to a large number of undertakings.

There are not enough transmission networks available at present to cope with future needs, a fact that has been ascertained in international exchanges in particular. Transfrontier communications are a source of problems, thus obliging operators to use networks run on a private basis. It is essential for telephone communications to be of high quality to avoid any breaks in transmission or loss of information which would hold up the exchange. As matters now stand, only the gateways for access to national networks have been

created. The networks for data transmission in Europe are still not compatible enough. More particularly, while the different telephone systems do not have a common standard, it will be necessary to use methods of conversion.

There are a great many EDI initiatives, examples being in the motor manufacturing industry, tourism, banking, transport, sales and distribution. The approach adopted in computerizing the ports was to adopt solutions compatible with the technical and financial resources of the undertakings. In order to enable the undertakings to communicate without disrupting their own systems, a central unit takes care of the technical problems of links between different types of computer and manages the time available. The central unit standardizes the messages and dispatches them to the different addresses. The use of a host centre illustrates the potential of value-added networks which offer letter-box services and electronic mail, while relieving undertakings of the problems of converting standards, communications protocols, variable speed lines, and down time. The purpose of electronic data interchange (EDI) is to link all types and sizes of computer systems so as to provide them with the advantages of co-operation. However, this large-scale interchange calls for a standard vocabulary, syntax, segments and messages as well as communications protocols.

It would, quite clearly, seem to be necessary to interlink the sectoral projects, and it is in this context that steps were taken towards standardization.

But, while it is not conceivable that a single overall standard should be laid down or accepted by all sectors of the economy, especially as such a standard may be inflexible and prevent future progress, it is necessary to create the framework conditions for intercommunication between the different systems.

Deregulation stimulates creativity, moreover, and means that technological advances can be used to the full. It is certainly essential to ensure that users have the possibility to create systems that cater for their requirements, although it may well be that the need for transversal links between sectors may not be taken into account. A realistic aim is to establish a framework in which the standards can operate, primarily by communicating to the sectors what has already been agreed. One cannot wait much longer to gain acceptance for this basic standardization: new independent initiatives would prevent intercommunication.

In addition to the work on technical standardization, it will also be necessary to resolve the legal problems. The recognition of transactions based on electronic media calls for questions of liability to be settled. The reception of information on a screen, with no certified signature, is nevertheless a new contractual form. When information is transferred among a number of partners, the question of liability becomes particularly difficult. In this sphere, too, it is necessary to have a legal framework meeting trading requirements.

ROUND TABLE 79: "ENVIRONMENTAL CONSIDERATIONS IN THE EVALUATION OF TRANSPORT PROJECTS"

Background papers were prepared for this Round Table by Mr. Basoli (Italy), Mr. Lamure (France) and Mr. Hidber (Switzerland), while Mr. Beauvais (France) submitted an international bibliography on the problem of the environment.

1. Aims of impact studies and effects to be taken into consideration

The aim of environmental impact studies is to offer a means of more effectively evaluating transport sector projects by integrating social costs in the decision-making process. Both the general public and elected representatives are calling for greater transparency with respect to the effects of infrastructure projects on the environment. However, such awareness of a project's effects should not result in its being put aside but lead instead to the selection of the best variant of the project in question.

Endeavours to ensure that the impact of an infrastructure is compatible with the environment are prompted by the need to establish an equilibrium among social aspirations. Economic growth and the accompanying need for mobility are the source of environmental difficulties, since it is only in part the same individuals who both benefit from the mobility and wish to avoid the associated effects. This conflict of aims will probably increase over the years to come, so any measures capable of minimising the environmental impact of transport operations are all the more welcome.

Infrastructure projects have an impact on the natural beauty of sites and on their ecological equilibrium, as well as being a source of disamenities resulting from pollution and noise. Occupation of surface areas also gives rise to divisive effects.

The specialists attending the Round Table considered that the problem at present is one of adopting strategies to prevent long-term effects since, where the immediate effects are concerned, threshold values can be determined for various criteria such as, for example, noise levels that can be tolerated at a given distance from the transport infrastructure. However, no adequate evaluation is made of long-term effects such as the depletion of non-renewable energy resources or atmospheric and soil pollution.

Two types of difficulty arise in the process of limiting the negative effects on the environment. First, when threshold values for tolerance are defined, it is found that there are differences across societies since different populations have differing degrees of sensitivity to the problem, thus limiting the scope for international harmonization. Secondly, it is difficult to place a monetary value on some effects, especially those arising in the long term.

2. Concepts of measurement and possibilities for aggregating effects and assigning a monetary value to them

In practice, the researcher often experiences unforeseen problems when carrying out impact studies, such as conservation of flora and fauna, and finds it impossible to rank these problems in any order of priority. For example, should noise control take priority over atmospheric pollution? In a different context, the price of oil-based energy depends on the supply and demand but does not necessarily reflect the effect that such resources can be depleted. Accordingly, the assignment of a monetary value cannot be a decisive factor in taking account of external effects, although it is easier to deal with effects that can be assigned such a value.

The method used to evaluate effects should also take account of target groups and transfers among these groups. Is it enough for the effects on the groups to neutralise or offset one another?

The social effects do not seem to be readily quantifiable, especially the effects on a community of the construction of new feeder services or the adjustment of society to new spatial functions.

Some specialists consider that there is little point in dwelling on the question of assigning a monetary value to effects. Figures can be found but their relevance is often limited. On the other hand, a multi-criterion approach may be adopted in which some effects have a monetary value while others are qualitative or quantitative.

There are limits to placing a value on effects because one has to make an indirect evaluation. Physical models for emissions and ground level concentrations are constructed in order to assess the impact of pollutants. It is then necessary to determine the threshold beyond which lesions and health problems are created for man or the biological environment suffers. In order to assign a monetary value it is necessary, for example, to establish the probable loss of working capacity in the long term, although no explanation based on a single cause is possible. While the degree of toxicity can be ascertained, the relationship with the damage is particularly complex.

The assignment of a value to detrimental effects on the environment by means of willingness to pay is a source of error insofar as the statements made may not be consistent with in situ behaviour, particularly if it is in the interests of the individuals to overestimate the damage suffered. On the other hand, an evaluation can be made on the basis of effective avoidance behaviour, such as when individuals are prepared to pay higher rent to enjoy a better environment. It is also possible to measure replacement costs of damage to the environment where rare species have to be planted again. It is quite clear, therefore, that methods of placing a monetary value on environmental effects are progressing. Although the values in question may remain approximate, they will offer a means of taking more precise account of environmental imperatives.

Where unknown phenomena are concerned, it is for the public authorities as representatives of the public interest to state the preferences. Multi-criterion analyses can make a contribution in this connection in that they can draw attention to all the probable consequences which must not be overlooked in any decision-making process.

3. The inclusion of environmental studies in the planning process

The consideration given to the environment as compared with other factors (time-saving, safety, economic advantages and social effects) is shown by national practices: the policy-makers decide that accessibility should take pride of place over protection of the environment. Accordingly, methods of evaluating impact may be seen as allied to decisions aiming for economic efficiency. Nevertheless, the object of the studies

is still to increase the awareness of the public concerned, ensure transparency of choice and help to make the overall ecological pattern more positive by selecting the best variant of a project.

Findings are no longer presented in a single form combining the different aspects of a project. The decision-makers do not wish to have an aggregated whole as they want to retain their choice of a system of values. However, there is always the risk that the interests of the public have to give way to electoral considerations. In any event, it is particularly difficult to determine the weighting of the factors likely to be taken into consideration. There are no threshold values for natural beauty spots or for the conservation of rare species, and it is difficult to clarify the importance of these aspects among others. Experience has shown that qualitative factors which are not quantifiable have been given priority in some critical cases. The analysis may bring to light a range of alternative preferences so that those taking the policy decisions can get some idea of the consequences of the priorities adopted. Accordingly, disaggregated methods have an educational value. They are not incompatible with efforts to determine a monetary value – leading to cost-benefit analysis – by means of basic assumptions. The methods can, in fact, be combined to corroborate decisions taken according to the different approaches.

The specialists also consider it essential to consult the populations affected by a project. After reconsideration, feelings of resistance to the particular project may be allayed. The referendum may be a suitable means for local projects and has the merit of giving weight to a decision by imposing it on everyone. Most countries, in fact, undertake consultation by means of canvassing opinion through intermediaries and providing documentation for the persons concerned. Experience has shown that it is important to inform the public as from the initial stages of a project insofar as it is then possible to allay feelings of resistance to a project which, if they emerged later, might prevent its implementation.

D. DOCUMENTATION

The steady progress being made in the field of information technology offers a challenge which documentalists must take up in order to make the most of the new techniques. Accordingly, after a period of heavy systems, the new micro-systems were developed, while tomorrow we shall no doubt see the regular installation of mini-systems.

The ICTED system¹ has adjusted to this process by making arrangements to bring back the TRANSDOC database from the OECD's central unit on which it was run to put it on a series of microcomputers set up as a network under ECMT management. A series of conversion programmes developed for this purpose by the OECD Directorate for Computers and Communications (DCC) made it possible to accept external data supplied on diskettes, as well as data captured on the ECMT micro-computers or on-line by the central unit. All these data are converted and stored as required on micro-computers and on the central unit or are reformatted for transmission on magnetic tape or diskette. Attention should here be drawn to the highly-skilled task carried out by the DCC specialists which enables the ECMT base to keep up with these technical developments without any quantitative or qualitative change in the data.

A number of railways have shown interest in the Microsis software developed by UNESCO and adapted by the DCC for a series of OECD users and also for ECMT, and they are collaborating with the International Union of Railways (UIC) to consider the possibility of using it in their undertakings.

The European Space Agency, which provides on-line access to about 100 databases, including TRANSDOC, has converted its charging system which is no longer based on the time taken for retrieval but on the service provided, so the visual display of an index or scanning of references cost very little, but the price increases once the user has located useful information and transcribes it for storage or edits it on paper. This type of charging should mean that host users do not have to worry about time and so enable them to find their way without undue haste to an optimum selection of information. Lastly, the host interconnection service, whereby users can simultaneously interrogate other hosts via their usual supplier and therefore have access to a broader range of databases, commands higher prices in view of the value added.

By means of the different enquiry techniques provided by the hostss uninterrupted access can be had to the TRANSDOC base either by ESA/IRS² clients of another database, or by the clients of other hosts.

1. International Co-operation in Transport Economics Documentation.

2. ESA/IRS: European Space Agency – Information Retrieval Service.

These sophisticated enquiry techniques are going to become available gradually, but users will first have to be brought up to the necessary level and the effects will only be noticeable in the medium term.

The high point of 1988 for the documentation system was the promotional display during the ECMT's 11th International Symposium on Theory and Practice in Transport Economics in Brussels from 12th to 14th September 1988 where, with the help of the Belgian Road Safety Institute, on-line enquiries were demonstrated for the benefit of the researchers and administrators in attendance. Visitors were provided with a substantial amount of literature to enable them to assess the value of the on-line resources, and many of them were therefore able to establish contacts with the correspondents of the ICTED system who were attending to give a helping hand to the Secretariat (particularly the Delegates for Germany, the Netherlands and Sweden) thus providing evidence of the sound establishment of the system in the various countries.

While there is every reason to feel satisfied with the technical and commercial progress of the system, attention must also be drawn to some weaknesses on the input side since supply sometimes fluctuates dangerously according to local conditions. In this connection, a co-ordinating meeting of French participants was held on 28th June 1988 under the chairmanship of a senior civil servant from the Ministry of Transport, the purpose being to ensure a better allocation of tasks among those concerned.

Switzerland has also sent directly to the ECMT an important contribution on magnetic medium which confirms that the appropriate national structures have been set up.

Lastly, an information exchange agreement has been concluded with the EEC Transport Division's documentation service so that that Organisation's studies and reports can be more readily channelled into the TRANSDOC base.

On 12th September 1988, the ECMT Secretariat received a letter from the Swiss Transport Research Board (STRB) concerning the possibility of establishing a direct link between the STRB and the ECMT documentation system. The STRB is a research and advisory body for the Swiss Federal Government and is responsible for the collection, processing and dissemination of information on transport research. The STRB has a long-standing relationship with the ECMT and has been a member of the ECMT since 1975. The STRB has also been a member of the ECMT's Working Group on Transport Economics since 1982. The STRB has a large collection of research reports and studies on transport economics and has been a major contributor to the ECMT's documentation system. The STRB has also been a major contributor to the ECMT's Working Group on Transport Economics since 1982. The STRB has a large collection of research reports and studies on transport economics and has been a major contributor to the ECMT's documentation system. The STRB has also been a major contributor to the ECMT's Working Group on Transport Economics since 1982.

Chapter IV

EXTERNAL RELATIONS

1. OECD

Under the terms of the Protocol setting up the ECMT, the Conference is directly attached to the *Organisation for Economic Co-operation and Development (OECD)* for administrative purposes, which necessarily creates close relations between the two organisations.

Co-operation between them is formally based on the meetings of the OECD/ECMT Liaison Committees which provide for exchanges of views at regular intervals on matters of common interest and methods of collaboration. During 1988 the role of these committees was very appreciably strengthened as a result of greater participation on the OECD side. They met on 19th October. Under the chairmanship of the Head of the Swedish Delegation, the OECD Liaison Committee consisted of the Heads of Delegation for the Netherlands, United Kingdom and United States, as in previous years, but also for the first time the representatives of Finland, France, Germany, Italy, Norway, Turkey and Australia. On the ECMT side, the Liaison Committee was chaired by the Secretary-General of the Conference and included the Deputies for Luxembourg, the United Kingdom, Sweden and Spain. The meeting gave consideration in particular to the work in hand in the two organisations, stress being laid on the OECD's technology/economics programme and the ECMT's studies on investment in transport infrastructures. An in-depth discussion was also held on the procedures to be adopted by the ECMT for the organisation of a Ministerial Conference on Transport and the Environment in November 1989. The OECD will be making a major contribution to this conference on the basis of its most recent studies.

Quite aside from the meetings of the Liaison Committees, the Secretariats of the two organisations do in fact have contacts other than those specified in the Protocol. For example, the ECMT Secretary-General was invited to make a statement to the OECD Council concerning developments with respect to transport and transport infrastructures in Europe. There is also very active collaboration between the ECMT Secretariat and the Environment Directorate in preparing the above-mentioned Ministerial session on transport and the environment for which the OECD will be mobilising all its capabilities in this sphere by drawing up a number of contributions. From a more general standpoint, each time issues of common interest to the two organisations arise, both send representatives to the meetings of the others' specialised groups. Transport is of course a major factor in a country's overall economy, so it quite naturally has its place in OECD studies. It is therefore an advantage that the OECD's working bodies can be kept regularly informed of the work done by ECMT which, in its turn, can call on the OECD's expertise in the various fields within its competence, an approach that is used in particular, but not exclusively, for the latter's work in connection with economics and statistics, energy, the environment, maritime transport, road research and road transport studies.

2. Council of Europe

The Parliamentary Assembly of the *Council of Europe* reviews ECMT activities every two years and the Standing Committee of this Assembly, meeting in Vienna on 23rd March 1988, held such a discussion on the basis of a detailed examination of the 32nd and 33rd Annual Reports of the ECMT.

The Secretary-General of the Conference addressed the parliamentarians at this meeting, drawing attention to the fact that the ECMT was particularly concerned by:

- The situation of the railways; it was decided that the ministerial session in Luxembourg should be largely devoted to this subject when the Ministers would also be giving a hearing to the Directors-General of the railways of the ECMT countries;

- The deterioration of safety on the roads ; the ECMT is now focussing all its efforts on the question of the responsibility of drivers, and it organised an international seminar on this topic in Hamburg in June 1988 ;
- A fall in investment in transport infrastructures ; in view of the rapid increase in international traffic, bottlenecks may well develop in the European communications networks ;
- The Community deadline of 1992 ; with a view to avoiding the establishment of a Europe with "two speeds", an ad hoc Group has been set up by ECMT to examine possibilities of concluding a multilateral agreement on international road transport.

Following a very keen debate in which a large number of speakers took the floor, the Parliamentary Assembly adopted Resolution No. 893 (1988) which is set out in Annex IV to this report on ECMT activities, a Resolution that invites member States of the Council of Europe to make full use of the capabilities of ECMT to co-ordinate all the aspects of an international transport policy and to strengthen the Conference's potential for taking action so as to ensure a coherent European transport policy among both member and non-Member countries of the European Communities. It also requests the ECMT to give particular attention to the completion of the project for a European high-speed train network, to find overall solutions to the problems of communications through the Alps and Pyrenees, to connecting links to ensure better regional equilibrium, to research and innovation in the transport sector and also to the profitability of investment from both the political and social standpoints. Lastly, the Parliamentary Assembly invites the ECMT to make specific proposals for the extension throughout Europe of sales outlets for unleaded petrol, for the improvement of road safety, for the harmonization of tax regulations, for the development of combined transport and for the modernisation of infrastructures in Europe.

3. European Communities

As in previous years, the ECMT continued in 1988 to maintain especially close relations for co-operation with the European Communities and their various bodies.

As regards the policy issues involved, more particularly during the period of preparation for the 1992/1993 deadline for the introduction of the single market, reference should be made to Chapter I, Section A which gives a more detailed account of what has to be taken into consideration and, in this context, the machinery set up earlier has proved extremely useful. An agreement was concluded some years ago whereby the European Communities are regularly represented at sessions of the ECMT Council of Ministers, while the Commission's services are represented on the Committee of Deputies and, in many cases, on the ad hoc Groups. Moreover, a "dialogue" between the European Communities and those ECMT countries which do not belong to the EEC has been on the agenda for one of the sessions held by the Committee of Deputies each year, thus providing an opportunity for all participants to exchange views and information on the main lines of approach adopted in their transport policies.

In addition, at each session of the ECMT's Council of Ministers, the current President of the Council of the European Communities reports on the latest developments in the Common Market.

At the same time, virtually permanent contacts are maintained between the Commission's services and the Secretariat of the Conference.

Lastly, special attention should be drawn to a number of specific achievements and, in particular, as indicated in Chapter II, Section H, the Conference's collaboration in the establishment of a research programme under the sponsorship of the European Communities concerning the funding and administrative provisions relating to transport for the disabled.

It should also be noted that the Secretariat took part in a number of meetings organised within the framework of the EEC's activities, including a seminar on present and future demand for passenger transport in Europe, and also attended the Committee for co-operation on transport statistics which comes under the Statistical Office of the European Communities in Luxembourg.

4. United Nations Economic Commission for Europe

In 1988, as in previous years, the ECMT maintained working relations at appropriate levels with the UN/ECE Inland Transport Committee, a number of its subsidiary bodies and its Secretariat. Throughout the year a special place in such co-operation was assigned to the updating of the International Conventions on Road Traffic and on Road Signs and Signals, together with the European Agreements supplementing them, which

are administered by the UN/ECE. The ECMT Secretariat is in fact very directly involved in this major undertaking as the Conference has transmitted to the UN/ECE a large number of proposals for amendments which are to be incorporated in the updating process.

It should also be noted that the Director of the UN/ECE Transport Division customarily attends all meetings of the ECMT Committee of Deputies.

5. Non-Governmental Organisations

All the provisions made for transport by the political Authorities are specifically meant for operators, employees and users in this sector. Many of them are represented by non-governmental international organisations, with which ECMT maintains good relations. In order to take the views of these organisations into account as much as possible, some changes in the structure of the annual auditions have been made. The organisations will now be invited during the first month of the year to a hearing on all topics foreseen in that year. More specialised hearings of experts will be organised by the working groups. For instance, the Group on Transport and the Environment has made an assessment of the organisations most interested in the subject of Transport and the Environment, as one of the steps in the preparation of the special Ministers Council.

The Secretariat frequently takes part in events organised by the international organisations themselves, either by listening to the opinions of those working in the field of transport or by actually presenting ECMT policies. Meetings of the IRU, the IRF, and the Hamburg Fair and Exhibition on Transport and Communication are examples of such events.

6. Kingdom of Morocco

The Kingdom of Morocco has made a request to join the ECMT as an observer. The Ministers Council has granted this request and invited the Kingdom of Morocco to participate in ECMT's work in a form which will be determined in due course in an exchange of letters. This special status is necessary because Morocco is not a Member country of the OECD, which is not the case for other members and associated members of ECMT who are Member countries of the OECD. As Morocco is so closely involved in trade and transport in Western Europe, and since there is continuing discussion about a fixed link across the Strait of Gibraltar, the ECMT is looking forward to working together with Morocco.

7. Eurofima

The Conference also maintained its links with the *EUROFIMA* Company on the customary basis whereby the Director-General of the Company reports each year on its activities to the Committee of Deputies. The report drawn up in 1988 is set out in Annex V to this publication.

Part Two

TRENDS IN THE TRANSPORT SECTOR, 1970-1987

The following is a list of the names of the persons who have been named in the report of the Commission on the activities of the Communist Party, U.S.A., in the United States, during the period from 1945 to 1954. The names are listed in alphabetical order of the last name, and are followed by the name of the organization in which they were active, and the dates of their activity. The names are listed in the order in which they appear in the report.

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TRENDS IN THE TRANSPORT SECTOR

1970-1987

Introduction

This report essentially describes the situation of the transport sector in Europe in 1987 and, with the help of charts, shows the changes that have occurred since 1970.

1. Since the leaflet on transport trends is customarily submitted to the November session of the Council of Ministers, it can provide statistics only up to the preceding year (1987 in the present case). This accounts for the difference in time as compared with Part One which describes the ECMT's activities during 1988.
2. The assessment of recent trends in Europe has been based on data provided by Member countries of the ECMT¹. The volume of traffic has been calculated on the basis of statistics for passenger-kilometres and tonne-kilometres.
3. In order to base the overall trends on as many countries as possible, the indices used for several charts include estimates of traffic where 1987 figures are not available for certain countries.

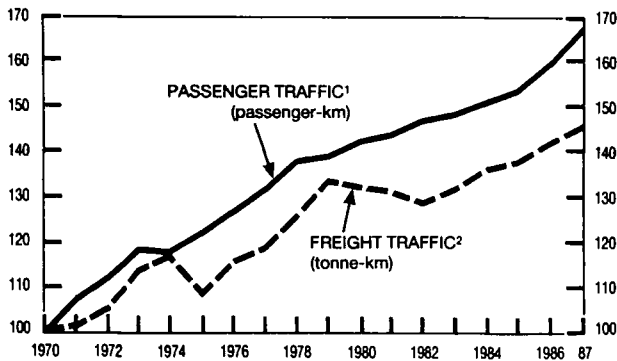
General situation

4. Despite the stock market crash in October, economic growth in 1987 proved better than expected in the OECD European countries. Primarily owing to the buoyancy of investment by enterprises, the Gross Domestic Product (GDP) of these countries showed a further rise in real terms of 2.7 per cent in 1987 following the increase of 2.6 per cent in 1986, thus recording the sharpest upturn since 1979 and, after the flat 1980-1981 period, confirming the improvement in the economic climate, marked by a steady expansion of activity but at a rate well below the average over the previous decade. The GDP of all ECMT Member countries, with the exception of Denmark and Greece, showed an increase: Turkey (+ 7.4 per cent), Spain (+ 5.2 per cent) and Portugal (+ 5.0 per cent) chalked up the best performances. Industrial output of course also reflected the economic climate, expanding by nearly 2.2 per cent to reach the highest level to date.
5. The sustained economic growth in Europe affected *freight traffic* which, in terms of tonne-kilometres, increased by over 3 per cent on average in 1987 in the ECMT countries (by 2.8 per cent if oil pipeline traffic is excluded). At over 1 295 billion tonne-kilometres, it was the largest volume of traffic ever. However, all the modes of transport did not increase their traffic to the same extent. While road and pipeline traffic increased, there was a very substantial fall in rail and inland waterways freight traffic.
6. *Passenger transport* made further progress in 1987 with nearly 3 410 billion passenger-kilometres and an average growth rate of over 4.3 per cent in the ECMT countries. This sustained growth at about the same rate as in 1986 (+ 4.4 per cent) clearly marks a break with the pattern over the years 1979 to 1985 of a relatively modest rise in passenger traffic – some 1.6 per cent per year – which was itself in sharp contrast with the virtually continuous high rate of expansion between 1970 and 1978. The sharp increase in passenger traffic in 1987 is essentially attributable to private transport by road, but rail, bus and coach transport also made a positive contribution.
7. After the poor results in 1986, the overall level of *road safety* improved in Europe in 1987 although not enough to return to the 1985 level, and the results in 1987 are in fact somewhat uneven: whereas the total number of accidents was slightly higher, they were considerably less severe since there was a significant drop in the number of injured and, more particularly, fatalities.

Freight transport

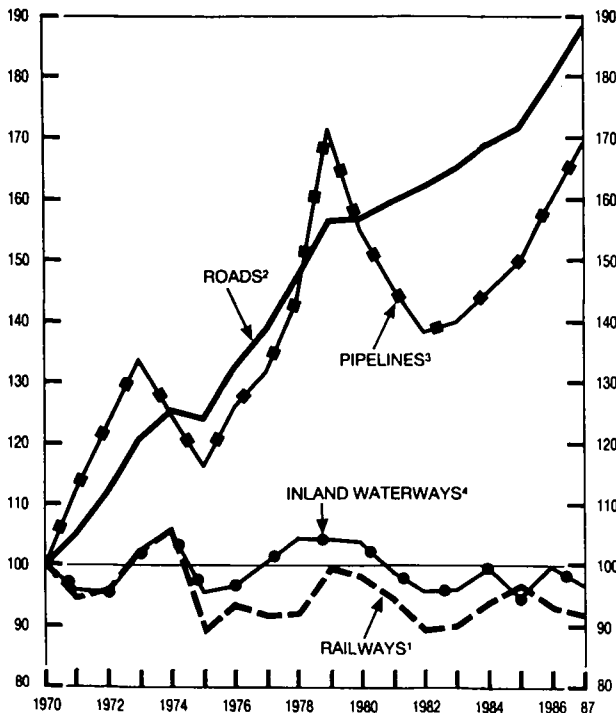
8. *Rail freight traffic* diminished (- 1.4 per cent) in 1987 for the second year in succession, a fall that was more marked in domestic traffic than in international services (- 0.5 per cent). The only railways to record an increase in 1987 were those of Portugal (+ 12.1 per cent), Italy (+ 5.4 per cent), Finland (+ 1.0 per cent) and, to a lesser degree, Spain and Turkey. Falls of over 3 per cent were, however, recorded in Denmark, Germany,

PASSENGER AND FREIGHT TRAFFIC TRENDS
1970 = 100



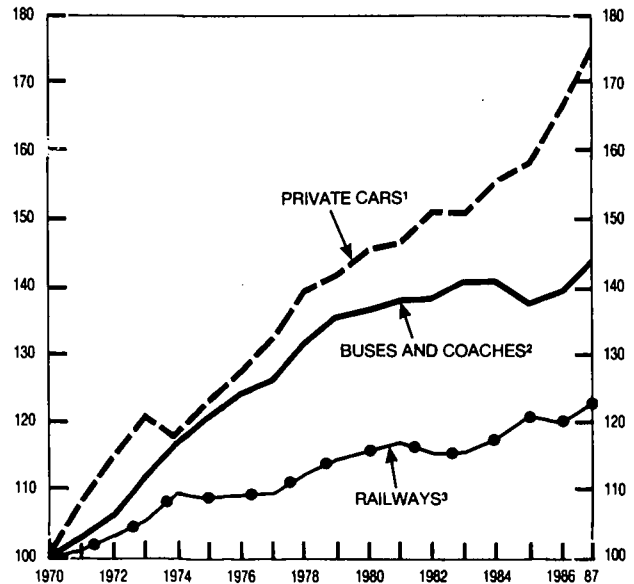
- 17 countries: A, B, DK, SF, F, D, GR, I, NL, N, P, E, S, CH, TR, UK, YU.
- 16 countries: A, B, DK, SF, F, D, I, L, NL, N, E, S, CH, TR, UK, YU.

FREIGHT TRAFFIC TRENDS
1970 = 100
(tonne-kilometres)



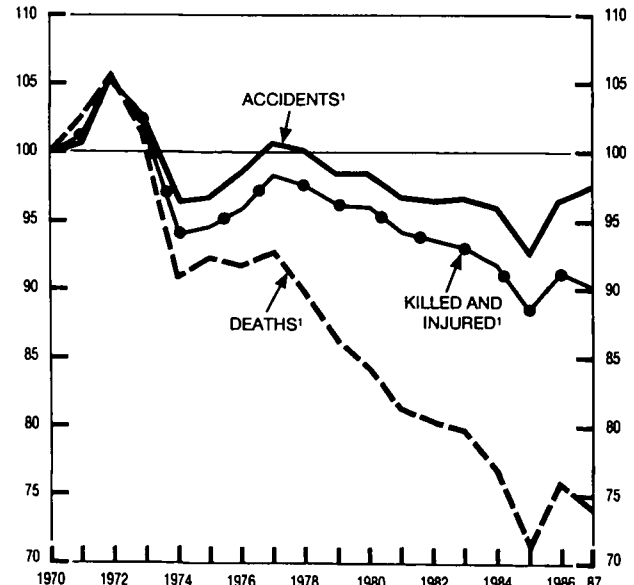
- All ECMT countries.
- 16 countries: A, B, DK, SF, F, D, I, L, NL, N, E, S, CH, TR, UK, YU.
- 11 countries: A, B, F, D, I, NL, E, CH, TR, UK, YU.
- 11 countries: A, B, SF, F, D, I, L, NL, CH, UK, YU.

PASSENGER TRAFFIC TRENDS
1970 = 100
(passenger-kilometres)



- 14 countries: A, B, DK, SF, F, D, I, NL, N, P, E, S, CH, UK.
- 16 countries: A, B, DK, SF, F, D, GR, I, NL, N, P, E, S, CH, UK, YU.
- All ECMT countries.

ROAD SAFETY TRENDS
1970 = 100



- All ECMT countries.

FREIGHT TRANSPORT
 Thousand million tonne-kilometres

	RAIL (1)						ROADS (2)						INLAND WATERWAYS (3)						PIPELINES (4)						TOTAL FREIGHT (5) = (1) + (2) + (3) + (4)						
	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	
	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
D	70.27	54.31	63.77	59.63	57.80	-3	78.00	96.00	124.40	138.50	140.60	+2	48.81	47.57	51.44	52.19	49.72	-5	15.12	13.09	13.10	8.16	8.73	+7	212.20	210.96	252.70	258.47	256.85	-1	
A	9.87	9.38	11.00	11.27	11.01	-2	2.86 ¹	4.65 ¹	7.93 ¹	6.30 ¹			1.29	1.41	1.56	1.59	1.63	+2	3.62	5.78	7.06	4.64	4.91	+6	17.65 ¹	21.22 ¹	27.54 ¹	23.81 ¹			
B	7.88	6.81	8.04	7.44	7.27	-2	13.09	16.52	18.31	23.72			6.73	5.12	5.85	5.20	5.12	-2	0.27	1.54	1.80	0.93			27.97	29.99	34.00	37.29			
DK	1.85	1.84	1.62	1.80	1.70	-6	7.80	9.50	7.80	8.80															9.65	11.34	9.42	10.60			
E	10.34	11.08	11.30	11.74	11.77	0	51.70	76.50	89.50	114.00	123.00	+8								1.02	2.12	3.01	3.63	3.66	+1	63.06	89.69	103.81	129.37	138.43	+7
SF	6.27	6.44	8.34	8.15	8.24	+1	12.40	15.50	18.40	22.10	22.20	0	4.40	4.40	5.20	4.50	4.90	+9							23.07	26.34	31.94	34.75	35.34	+2	
F	67.58	61.25	66.37	51.69	51.33	-1	66.30	83.40	103.90	93.00	99.90	+7	14.18	11.91	12.15	7.77	7.37	-5	28.18	31.10	34.67	26.98	25.26	-6	176.25	187.65	217.10	179.43	183.86	+2	
GR	0.69	0.93	0.81	0.70	0.60	-15	6.96	10.75		12.54															7.65	11.68		13.24			
IRL	0.55	0.56	0.62	0.57	0.56	-2			5.01	5.09																	5.64	5.66			
I	18.07	14.89	18.38	17.48	18.43	+5	58.70	62.80	119.60	150.65	157.63	+5	0.35	0.22	0.20	0.16	0.20	+23	9.07	11.50	11.94	9.63	9.92	+3	86.19	89.41	150.12	177.91	186.17	+5	
L	0.76	0.66	0.66	0.60	0.59	-2	0.14	0.22	0.28	0.24			0.30	0.30	0.33	0.29	0.27	-7							1.20	1.18	1.27	1.13			
N	1.45	1.51	1.66	1.83	1.74	-5	3.19	4.57	5.25	7.04	7.43	+6													4.64	6.08	6.91	8.87	9.18	+3	
NL	3.71	2.73	3.40	3.05	3.00	-2	12.40	15.44	17.67	19.25	20.23	+5	30.74	29.60	33.48	34.50	33.78	-2	4.08	4.45	5.04	4.26	4.07	-4	50.92	52.23	59.59	61.06	61.07	0	
P	0.78	0.75	1.00	1.33	1.49	+12			11.80																						
UK	24.50	20.94	17.64	16.47	16.40	0	85.00	91.70	89.70	100.90	108.60	+8	2.00	2.20	2.30	2.40	2.50	+4	2.67	5.42	9.43	9.73	9.87	+1	114.17	120.26	119.07	129.50	137.37	+6	
S	17.31	16.06	16.85	18.55	18.41	-1	17.80	20.19	21.36	22.85	22.61	-1													35.11	36.25	38.01	41.41	41.02	-1	
CH	6.59	5.14	7.39	6.97	6.81	-2	4.16	4.51	6.03	7.50	7.65	+2	0.17	0.13	0.16	0.15	0.14	-7	1.21	1.25	1.11	1.20	1.23	+3	12.13	11.04	14.69	15.81	15.83	0	
TR	6.09	7.36	5.17	7.40	7.40	0	17.45	29.42	37.61	48.46	53.48	+10							1.34	1.01	13.80	34.14	40.59	+19	24.88	37.79	56.58	90.00	101.47	+13	
YU	19.25	21.64	25.02	27.57	26.07	-5	7.95 ¹	12.28 ¹	19.00 ¹	22.34 ¹	22.64 ¹	+1 ¹	4.38	5.46	4.98	4.55	4.18	-8	0	0.11	2.16	3.07	3.26	+6	31.58 ¹	39.49 ¹	51.15 ¹	57.53 ¹	56.15 ¹	-2 ¹	
ECMT	273.80	244.27	268.63	254.24	250.61	-1	438.93	543.21	686.74	785.65	E 825.03	+5	113.37	108.31	117.64	113.30	109.80	-3	66.58	77.35	103.11	106.36	E 112.41	+6	890.67	970.89	1173.89	1256.94	E 1295.20	+3	
ECMT = 19 countries.						ECMT = 16 countries: D, A, B, DK, E, SF, F, I, L, N, NL, UK, S, CH, TR, YU.						ECMT = 11 countries: D, A, B, SF, F, I, L, NL, UK, CH, YU.						ECMT = 11 countries: D, A, B, E, F, I, NL, UK, CH, TR, YU.						ECMT = 16 countries: D, A, B, DK, E, SF, F, I, L, N, NL, UK, S, CH, TR, YU.							
						1. Transport for hire and reward only.												1. Excluding road transport for own account.													

* -0.5% < 0 < +0.5%
 E = Estimate.

PASSENGER TRANSPORT
 Thousand million passenger-kilometres

	RAIL (1)						BUSES AND COACHES (2)						PRIVATE CARS (3)						TOTAL ROAD TRANSPORT (4) = (2) + (3)						TOTAL PASSENGERS (5) = (1) + (4)					
	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86	1970	1975	1980	1986	1987	87/86
D	37.31	36.90	40.50	41.40	43.10	+4	48.73	58.67	65.63	53.08	52.90	0	350.62	405.44	470.30	510.30	531.30	+4	399.35	464.11	535.93	563.38	584.20	+4	436.66	501.01	576.43	604.78	627.30	+4
A	6.28	6.47	7.38	7.33	7.36	0		9.80	12.45	12.68	12.84	+1		36.64	43.54	51.81	53.19	+3		46.44	55.99	64.49	66.04	+2		52.91	63.37	71.82	73.40	+2
B	7.57	7.65	6.96	6.07	6.27	+3	2.97	3.18	3.09	2.82	2.74	-3	49.25	57.54	65.38	68.10			52.22	60.72	68.47	70.92			59.78	68.37	75.43	76.99		
DK	3.35	3.17	4.31	4.70	4.80	+2	4.60	5.70	7.40	9.00	8.70	-3	33.30	37.80	38.30	45.60	47.70	+5	37.90	43.50	45.70	54.60	56.40	+3	41.25	46.67	50.01	59.30	61.20	+3
E	14.99	17.84	14.83	16.43	16.42	0	20.91	26.89	28.10	33.49	38.00	+13	64.35	99.33	130.90	126.07	140.00	+11	85.26	126.22	159.00	159.57	178.00	+12	100.25	143.86	173.82	176.00	194.42	+10
SF	2.16	3.14	3.22	3.17	3.10	-2	7.00	8.00	8.50	8.70	9.00	+3	23.70	31.20	33.90	40.50	41.60	+3	30.70	39.20	42.40	49.20	50.60	+3	32.86	42.34	45.62	52.37	53.70	+3
F	40.98	50.70	54.66	59.86	59.97	0	25.20	28.90	38.00	39.80	39.60	-1	304.70	374.80	452.50	517.30	533.60	+3	329.90	403.70	490.50	557.10	573.20	+3	370.88	454.40	545.16	616.96	633.17	+3
GR	1.53	1.55	1.46	1.95	1.97	+1	4.78	4.75	5.82	5.00	4.78	-5		5.46		14.37	15.16	+6	4.78 ¹	4.75 ¹	5.82 ¹	5.00 ¹	4.78 ¹	-5 ¹	6.31 ¹	6.30 ¹	7.28 ¹	6.95 ¹	6.75 ¹	-3 ¹
IRL	0.76	0.90	1.03	1.08	1.20	+11																								
I	32.46	36.33	39.59	40.50	41.40	+2	32.00	42.33	57.84	70.53	73.36	+4	211.93	279.26	324.03	394.38	427.20	+8	243.94	321.59	381.87	464.90	500.56	+8	276.40	357.92	421.46	505.40	541.95	+7
L	0.21	0.23	0.25	0.22	0.22	-4																								
N	1.93	2.27	2.75	2.58	2.55	-1	4.16	4.44	4.88	5.15	5.20	+1	18.48	27.22	31.30	37.42	39.77	+6	22.63	31.66	36.18	42.57	44.97	+6	24.56	33.93	38.93	45.16	47.52	+5
NL	8.01	8.50	8.89	8.92	9.40	+5	9.90	10.30	12.20	12.10	11.90	-2	72.10	93.50	112.50	126.20	129.70	+3	82.00	103.80	124.70	138.30	141.60	+2	90.01	112.30	133.59	147.22	151.00	+3
P	3.55	4.86	6.08	5.80	5.91	+2	4.36	5.15	7.80	8.30			17.47	29.39	41.00	58.00	60.00	+3	21.83	34.54	48.80	66.30			25.38	39.40	54.88	72.10		
UK	30.41	30.26	30.30	30.80	32.20	+5	53.00	55.00	45.00	41.00	41.00	0	283.00	294.00	361.00	428.00	451.00	+5	316.00	349.00	406.00	469.00	492.00	+5	346.41	379.26	436.30	499.80	524.20	+5
S	4.56	5.62	7.00	8.38	6.29	-1	5.50	6.40	7.30	9.00	9.00	0	55.40	64.20	66.70	75.60	79.00	+4	60.90	70.60	74.00	84.60	88.00	+4	65.46	76.22	81.00	90.96	94.29	+4
CH	8.17	7.98	9.18	9.33	10.68	+15	2.01	2.41	2.73	2.84	3.00	+6	50.71	60.78	72.80	82.47	83.15	+1	52.72	63.19	75.32	85.31	86.15	+1	60.89	71.17	84.50	94.64	96.83	+2
TR	5.56	4.74	6.01	6.05	6.17	+2																								
YU	10.94	10.28	10.39	12.40	11.83	-5	13.43	24.73	29.83	31.39	32.89	+5																		
ECMT	220.71	239.19	254.79	264.95	270.82	+2	E 246.53	296.65	336.38	344.89	E 353.21	+2	E 1541.88	1891.09	2243.93	2561.75	E 2685.31	+5	E 1829.73	2256.13	2653.69	3004.25	E 3140.40	+5	E 2049.48	2494.19	2907.19	3267.90	E 3409.81	+4
ECMT = 19 countries.						ECMT = 16 countries : D, A, B, DK, E, SF, F, GR, I, N, NL, P, UK, S, CH, YU.						ECMT = 14 countries : D, A, B, DK, E, SF, F, I, N, NL, P, UK, S, CH.						ECMT = 17 countries : D, A, B, DK, E, SF, F, GR, I, N, NL, P, UK, S, CH, TR, YU.						ECMT = 17 countries : D, A, B, DK, E, SF, F, GR, I, N, NL, P, UK, S, CH, TR, YU.						
												1. Excluding private cars.						1. Excluding private cars.												

* -0.5% < 0 < +0.5%.
 E = Estimate.

Greece, Norway and Yugoslavia. In sum, overall freight traffic on the railways of the ECMT countries in 1987 was equivalent to only 86.8 per cent of that in the peak year of 1974. On the basis of the initial data available, rail container traffic, which had shown considerable dynamism in the preceding years, continued the uptrend in 1987. The data submitted by 15 countries (D, A, B, SF, F, GR, IRL, I, L, NL, P, UK, S, CH, YU) show that over 37.3 million tonnes were carried in 1987, which is 3.8 per cent up on the previous year. These railways also recorded an increase of 4.3 per cent in the number of containers carried. In the international context, continental European container traffic carried by the Intercontainer Company attained a new peak of nearly 380 300 TEU (20 foot equivalent unit), up by nearly 12 per cent on 1986. This remarkable performance, which far exceeds the real increase in European trade in goods, is primarily the outcome of the spectacular expansion in swap body traffic which was 20 per cent or 125 000 TEU up on the previous year.

9. *Road freight traffic* increased on average by 5 per cent in 1987 and has not shown such a sharp upturn since 1979, thus confirming the change in the trend begun in 1986 (+ 4.6 per cent) and bringing to an end a period of moderate growth of some 1.5 per cent per year which started in 1980. Only Sweden reported a fall in road freight traffic in 1987, whereas increases of over 7 per cent were recorded in France, Spain, Turkey and the United Kingdom. This extremely positive trend was particularly in evidence at international level, allowing better use to be made of the scope offered by the ECMT multilateral quota system since, owing to the allocation of a larger number of licences, total traffic under the system expanded by 13.4 per cent in 1987, with the average number of tonne-kilometres per licence increasing by almost 2.5 per cent. The strong performance of international road transport is confirmed by the initial estimates of the Commission of the European Communities which show for the Twelve in 1987 an increase of some 6.4 per cent in terms of the total international tonnage carried by road between EC States.

10. After the improvement seen in 1986, *inland waterway traffic* dropped sharply by 3.1 per cent in 1987 to a level more than 8.2 per cent below the 1974 peak. Most of the countries with an important inland waterways system were affected by this downturn in 1987, the fall in traffic being particularly marked in Yugoslavia (- 8.2 per cent), Luxembourg (- 7.2 per cent), Switzerland (- 6.5 per cent) and France (- 5.1 per cent), while only Austria, Finland, Italy and the United Kingdom were unaffected. Rhine traffic (see the special section on this subject at the end of this report), following the increase recorded in 1986, fell slightly in 1987 in terms of both "traditional" shipments and those within the Netherlands. Despite relatively good water conditions throughout the period, the overall annual fall in traffic was over 3.1 per cent.

11. The number of tonne-kilometres recorded for *oil pipelines* in 1987 increased by nearly 5.7 per cent, although this figure should be viewed with caution since it was essentially attributable to the spectacular expansion in traffic through Turkey (+ 18.9 per cent) resulting from events in the Middle East and especially the Gulf War. If the traffic through that country is excluded, European traffic would in fact have diminished by over 0.5 per cent since the increases in Austria, Germany and Yugoslavia were not large enough to offset the most marked falls recorded in France (- 6.4 per cent) and the Netherlands (- 4.5 per cent).

12. For many years now the modal split of freight traffic has been changing radically and this long-term trend was further consolidated by the divergent results recorded for the different modes in 1987, as can be clearly seen in the following table based on data supplied by 14 ECMT Member countries², which shows how road transport's share of total traffic has been increasing while that of the railways and inland waterways has diminished.

Percentage trends in market shares of the various modes

Freight transport in tonne-kilometres

	1970	1975	1980	1986	1987
Road	55.0	62.7	65.9	70.3	71.6
Rail	31.2	25.2	23.0	19.8	19.0
Inland waterways	13.8	12.1	11.1	9.9	9.4
Total	100	100	100	100	100

Passenger transport

13. After a slight pause in 1986 (- 0.3 per cent), partly attributable to the social unrest experienced in that year by a number of railway undertakings, the upturn in *rail passenger traffic* begun in 1983 was fully consolidated in 1987 when the number of passenger-kilometres recorded by the railways of ECMT Member countries increased by more than 2.2 per cent, thus enabling them as a whole to establish an all-time record for

passenger traffic. Notwithstanding this highly favourable overall trend, however, the situation differed considerably from country to country since, while there were increases of over 4 per cent in Germany, Ireland, the Netherlands, Switzerland and the United Kingdom, falls of over 2 per cent were recorded in Finland, Luxembourg and Yugoslavia.

14. Public and private *road passenger traffic* in 1987 was more than 4.5 per cent up on the 1986 peak. The growth was mainly attributable to an increase of over 4.8 per cent in private car transport, while transport by buses and coaches increased by 2.4 per cent. Private car traffic now accounts for over 82 per cent of total passenger-kilometres in ECMT Member countries. Among the countries sending data in this connection, there was not one in which private car traffic did not increase in 1987, the most marked upturns being in Spain (+ 11.0 per cent), Italy (+ 8.3 per cent) and Norway (+ 6.3 per cent). The situation of public passenger transport varied across countries in 1987: bus and coach traffic increased sharply in Spain (+ 13.5 per cent), Switzerland (+ 5.6 per cent) and Yugoslavia (+ 4.8 per cent) but diminished appreciably in Greece (- 4.6 per cent), Denmark (- 3.3 per cent) and the Netherlands (- 1.7 per cent). Comparison over the longer term shows that the period 1970 to 1979 was marked by the sustained expansion of both modes of transport at the same time but also shows that since 1980 they have developed at a different pace with the gap between them widening, especially over the past three years, to the advantage of private transport. From 1980 to 1987, private car traffic expanded by 19.7 per cent, while coach and bus traffic increased by only 5 per cent.

Road accidents

15. Just as in 1986 when the number of *road accidents* increased by 3.9 per cent in the ECMT Member countries, there was a further rise in 1987, though fortunately not so marked (+ 1 per cent). The fact remains, however, that the total was higher than in any year since 1979, the countries most affected being Portugal (+ 37.6 per cent), Turkey (+ 18.1 per cent) and Spain (+ 12.0 per cent). Despite this overall negative trend, a number of countries made further progress insofar as the number of road accidents dropped considerably: Norway (- 9.8 per cent), Denmark (- 9.0 per cent) and France (- 7.4 per cent).

16. Although there were more accidents in 1987 than in 1986 they were considerably less severe. Continuing the downtrend which started in 1978 and was broken only in 1986, the total number of *road casualties* in ECMT Member countries – 1 896 000 killed or injured – dropped once again by over 1.1 per cent in 1987, although this very positive result covers different trends across countries since, while the number increased in Portugal (+ 32.0 per cent), Spain (+ 11.7 per cent) and Turkey (+ 4.7 per cent), there was a sharp fall in Luxembourg (- 15.1 per cent), Denmark (- 10.0 per cent) and Norway (- 9.8 per cent).

17. From 1977 to 1985 the measures taken by the public authorities to promote road safety had led to a steady drop in the number of road *deaths*, and 1986 marked a sharp break in this trend insofar as there was a substantial rise of 6.7 per cent in fatalities resulting from traffic accidents. In 1987 nearly 60 200 people were killed on the roads of ECMT Member countries. Though still appallingly high, this figure is nearly 2.7 per cent down on the previous year thus ensuring a return to the downtrend over the period from 1977 to 1985. However, the situation as regards this overall fall in 1987 – more marked moreover for the number killed than for the number injured – differed across countries: whereas the number of deaths diminished by 13.9 per cent in Luxembourg, 11.3 per cent in Norway, 11.0 per cent in Germany and 10.1 per cent in France, it increased by 18.5 per cent in Ireland, 16.2 per cent in Portugal and 8.1 per cent in Spain.

18. The outcome for 1987 therefore needs to be qualified somewhat: while there were more road accidents in 1987, they gave rise to fewer killed and injured than in 1986, although overall safety on European roads was not re-established at the level attained in 1985. Nevertheless, it is important to bear in mind the success of the road safety measures implemented by the public authorities for a number of years insofar as the 1987 results were the best ever other than in 1985 and represent a fall of over 30 per cent since 1972 in the annual toll of deaths on the roads of ECMT Member countries. However, in the light of some disturbing figures already available for early 1988 – and after the first warning given in 1986 – it is reasonable to ask whether the road safety measures taken in most countries since 1973 (speed limits, compulsory wearing of seat belts, helmets, and so on) have now reached their limits, thus making it necessary to take further steps essentially with a view to radically changing the behaviour of road users.

ROAD ACCIDENTS

Thousands

	ACCIDENTS						KILLED AND INJURED						DEATHS					
	1970	1975	1980	1986	1987	87/86*	1970	1975	1980	1986	1987	87/86*	1970	1975	1980	1986	1987	87/86*
D	377.61	337.73	379.24	341.92	325.52	-5	550.99	472.67	513.50	452.17	432.59	-4	19.19	14.87	13.04	8.95	7.97	-11
A	51.63	49.13	46.21	45.02	42.40	-6	72.65	68.35	64.37	59.78	55.82	-7	2.24	2.20	1.74	1.34	1.31	-2
B	77.00	60.38	60.76	58.52	59.67	+2	107.78	84.48	84.70	81.81	83.86	+2	2.95	2.35	2.40	1.95	1.92	-1
DK	19.78	16.00	12.33	11.17	10.16	-9	26.66	20.93	15.75	14.12	12.71	-10	1.21	0.83	0.69	0.72	0.70	-3
E	58.00	62.12	67.80	87.70	98.18	+12	87.00	93.00	112.69	142.56	159.25	+12	4.20	4.49	5.02	5.42	5.86	+8
SF	11.44	10.34	6.79	8.71	8.64	-1	17.08	15.07	8.99	11.37	11.33	0	1.06	0.91	0.55	0.61	0.58	-5
F	235.11	258.20	248.47	184.63	170.99	-7	344.75	366.90	352.18	269.97	247.49	-8	15.09	13.17	12.54	10.96	9.86	-10
GR	18.30	15.90	18.23	19.46	18.97	-3	25.72	23.30	26.67	28.95	27.98	-3	0.93	1.18	1.23	1.45	1.50	+4
IRL	6.40	4.91	5.68	5.78	5.84	+1	9.81	7.78	9.07	8.33	8.26	-1	0.54	0.59	0.56	0.39	0.46	+19
I	307.71	282.27	271.89	271.62	282.41	+4	238.44	239.41	231.41	220.24	224.30	+2	10.21	9.51	8.54	7.08	6.78	-4
L	3.13	4.23	4.02	4.57	4.32	-5	2.50	2.88	2.38	2.06	1.75	-15	0.13	0.12	0.10	0.08	0.07	-14
N	9.30	8.78	7.85	9.14	8.25	-10	12.32	11.51	10.61	12.46	11.24	-10	0.56	0.54	0.36	0.45	0.40	-11
NL	59.00	52.37	49.40	43.58	42.66	-2	71.41	62.30	58.62	51.61	50.67	-2	3.18	2.32	2.00	1.53	1.49	-3
P	31.08	45.99	52.13	59.31	81.62	+38	30.27	43.25	43.36	43.08	56.87	+32	1.42	2.68	2.26	1.98	2.30	+16
UK	272.77	251.17	257.28	254.03	245.41	-3	371.54	332.60	335.86	330.89	321.41	-3	7.77	6.68	6.24	5.62	5.34	-5
S	17.00	16.05	15.23	16.68	15.65	-6	23.54	21.98	20.09	22.46	21.26	-5	1.31	1.17	0.85	0.84	0.79	-7
CH	29.00	24.07	25.65	24.70	23.77	-4	37.68	31.19	33.57	31.38	30.10	-4	1.69	1.24	1.25	1.03	0.95	-8
TR	19.21	46.64	36.96	92.41	109.14	+18	17.67	30.86	23.82	70.38	73.69	+5	3.98	6.05	4.10	7.03	7.39	+5
YU	35.90	39.10	47.76	44.88	45.53	+1	53.65	58.90	69.97	64.70	65.73	+2	3.68	4.20	5.04	4.41	4.53	+3
ECMT	1639.36	1585.37	1613.70	1583.80	1599.12	+1	2101.46	1987.37	2017.62	1918.32	1896.31	-1	81.33	75.10	68.50	61.85	60.19	-3

* -0.5% < 0 < +0.5%.

E = Estimate.

Traffic on the River Rhine

19. The capacity of the total Rhine fleet (Rhine fleets of the Netherlands, Federal Republic of Germany, France, Belgium and Switzerland) increased by 10.8 per cent over the period 1979-1987, solely as a result of the growth of the Dutch Rhine fleet since capacity in all the other countries in fact diminished.

20. Owing to the recession in the iron and steel and metalworking industries and in the public works and construction sectors, the volume of Rhine traffic in tonne-kilometres dropped by 4.5 per cent between 1979 and 1985. There was a sharp upturn in 1986 since Rhine traffic as a whole increased by over 8.6 per cent to top even the peak level of 1978. Despite quite good water conditions, the activity of the Rhine fleet diminished considerably again in 1987 and overall traffic fell by more than 3.1 per cent, with traditional traffic by far the most affected and dropping by around 3.8 per cent. Trends differed for upstream and downstream traffic, however. Upstream traffic, which had reached peak levels in 1986, dropped steeply, no doubt owing to less activity in the iron and steel industry and, accordingly, less ore and coal traffic. Conversely, there was a slight increase in downstream traffic. The only positive feature in this generally dull scenario is the fact that Rhine-maritime traffic increased by 13.3 per cent on the strength of the good water conditions.

21. The increase in the tonnage capacity together with the virtual stagnation of traffic between 1979 and 1987 resulted in an estimated overcapacity of the Rhine fleet of 2.1 million tonnes at 30th June 1987, or 27.9 per cent for dry cargo and 0.22 million tonnes for tanker vessels.

**Traffic and fleet capacity on the River Rhine
from 1979 to 1987**

	1979	1980	1983	1984	1985	1986	1987
	Capacity of the fleet in millions of tonnes at end of year						
Switzerland	0.6	0.6	0.6	0.6	0.6	0.5	0.5
France	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Germany	3.2	3.3	3.1	3.0	3.0	3.0	3.0
Netherlands	3.8	4.0	4.8	4.9	5.0	5.0	5.2
Belgium	1.4	1.4	1.4	1.4	1.3	1.3	1.4
Total fleet capacity	9.5	9.8	10.5	10.4	10.3	10.4	10.5
	Traffic in thousand millions tonne-kilometres						
Traditional Rhine traffic ¹	36.8	36.3	35.1	37.3	34.6	38.2	36.8
Rhine traffic within the Netherlands	21	20.6	19.7	21.2	20.6	21.7	21.3
Total Rhine traffic	57.8	56.9	54.8	58.5	55.2	59.9	58.1

1. Total Rhine traffic excluding Rhine traffic within the Netherlands borders.

NOTES

1. Austria (A), Belgium (B), Denmark (DK), Finland (SF), France (F), Germany (D), Greece (GR), Ireland (IRL), Italy (I), Luxembourg (L), Netherlands (NL), Norway (N), Portugal (P), Spain (E), Sweden (S), Switzerland (CH), Turkey (TR), United Kingdom (UK) and Yugoslavia (YU).
2. D, B, DK, E, SF, F, I, L, N, NL, UK, S, CH, TR.

Part Three

**RESOLUTIONS OF THE COUNCIL OF MINISTERS OF TRANSPORT
AND REPORTS APPROVED IN 1988**

Department of the Interior, Bureau of Land Management, Washington, D.C. 20250
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OPINIONS OF THE COMMISSIONERS OF THE REVENUE AND FINANCE DEPARTMENT IN 1958

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General questions

RESOLUTION No. 64 ON THE MORE RAPID INTRODUCTION OF UNLEADED PETROL INTO EUROPE

[CM(88)4]

The Council of Ministers of Transport, meeting in Luxembourg, on 25th-26th May, 1988

CONSIDERING

- That, at present, the preservation of the natural and architectural environment is one of the most fundamental tasks in Europe;
- That a reduction in air pollution is a necessity and that transport must assume its responsibility in contributing to this reduction;
- That the use of unleaded petrol brings about significant and measurable reductions in lead particle emissions resulting in a lower level of risk to human health;
- That, moreover, the growing significance of traffic in vehicles equipped with catalytic devices that can only operate with unleaded petrol makes it essential that unleaded petrol is available at a European level;
- That providing a balanced network of stations offering unleaded fuel can also represent an opportunity to a country's tourist industry.

AWARE

- That the European Communities have already taken the necessary legal measures (directives 85/210 and 87/416) first, to ensure the availability, by the 1st October 1989 of premium unleaded petrol through a balanced network of appropriate stations and, second, to allow Member States to prohibit the further marketing of leaded regular petrol; that, furthermore, from 1st October 1990, Member States of the European Communities may refuse admission on the road for new vehicles covered by Directive 88/76 when the engine is not designed to run on unleaded petrol;
- That, in other ECMT Member countries, the network of stations supplying unleaded fuel is not yet sufficiently dense and needs to be expanded.

RECOMMENDS GOVERNMENTS

- Where appropriate, to accelerate considerably the progress in introducing unleaded petrol by encouraging the provision of suitable pumps as soon as possible in a balanced way over the national territory;
- To distribute rapidly information to motorists on the stations providing unleaded petrol where the national network of such stations is not very dense;
- To encourage motorist organisations and petrol companies to provide information on the use and availability of unleaded fuel in ECMT countries.

ASKS

- The Committee of Deputies to report in due course on the implementation of this Resolution.

COVER NOTE ON THE MORE RAPID INTRODUCTION OF UNLEADED PETROL INTO EUROPE

[CM(88)4]

The following resolution has been prepared on foot of a proposal from the delegation of the Federal Republic of Germany at the Council session in Madrid in 1987.

The situation in ECMT Member countries was described in CM(87)15 and further clarified by several delegations during the exchange of views at the Ministerial Conference in Madrid (paragraphs 27-38 of the summary record of the 65th session of the Council of Ministers [CM/M(87)1]). Information available to the Secretariat indicates the following for countries whose networks were not indicated as being complete or very dense in the note [CM(87)15].

Country	No. of stations with unleaded petrol	Reference date
Belgium	58 stations	1st January 1988
Finland	230 stations	April 1988
France	900 stations	Summer 1988
Greece	34 stations	Late 1987
Italy	375 stations	Late 1987
Ireland	20 stations	April 1988
Portugal	40 stations	April 1988
Spain	82 stations	April 1988
United Kingdom	over 1 000 stations	End April 1988
Yugoslavia	72 stations	April 1988

As indicated previously, the networks in Austria, Denmark, Germany, the Netherlands and Switzerland are complete and those of Luxembourg, Norway and Sweden are very dense.

**RESOLUTION No. 65 ON THE SHORTCOMINGS IN
IMPORTANT INTERNATIONAL PIGGYBACK TRANSPORT LINKS**

[CM(88)14]

The Council of Ministers of Transport, meeting in Luxembourg, on 25th and 26th May, 1988

CONSIDERING that

- Piggyback services can help to strike a balance among such legitimate matters of concern as the environment and traffic safety, as well as offering freedom of choice for users and meeting the needs of the community in terms of transport and trade;
- The rapid development of international piggyback routes is of particular importance both for increasing demand for such services and opening prospects for the railways in the longer term;

NOTES AND APPROVES the analysis of weak points on some important international piggyback transport routes contained in reports [CM(88)14] and [CM(88)15].

REQUESTS the Member countries, where appropriate, to take suitable measures in consideration of the proposals in the above reports.

and

REQUESTS the Committee of Deputies to report, within three years, on the measures that governments, railways and piggyback companies have initiated or taken at national and international levels, to redress the shortcomings mentioned in the reports.

REPORT ON THE SHORTCOMINGS IN IMPORTANT INTERNATIONAL PIGGYBACK TRANSPORT LINKS

Summary Report and Resolution
[CM(88)14]

Background

The objective of this analysis is to give an overview of the shortcomings of the main international transit routes in piggyback transport and, where appropriate, to make recommendations for improvement.

The report should also serve as an aid to Governments in helping them set priorities for the development of the rail and road transport infrastructure. Moreover, it should encourage the countries involved to co-ordinate infrastructure development, to remove operational and administrative obstacles to piggyback transport, and should consequently help to make its services more attractive.

A starting point for the present analysis relates to the development of international road transport as described in the ECMT report on Trends in the Development of International Transport and Infrastructure Needs [CM(86)2]. According to this latter report, bottlenecks in the road traffic infrastructure can be expected, while a part of the railway's capacity will remain underused. Improved piggyback transport services would provide an alternative to road transport. This is desirable for traffic safety purposes but also from the viewpoint of environmental protection, especially in some countries where continuous increases in road freight traffic are becoming unacceptable. Improved piggyback transport could also allow transit traffic to be operated more economically from society's point of view, since increasing road capacity may be more expensive than developing unexploited railway capacities.

The analysis of piggyback's weak points concentrates principally on the rail infrastructure. However, the current and potential demand for piggyback services are considerably influenced by other factors, such as customs clearance at borders and operational handling of combined transport in terminals. The report deals also with these problems.

The effects of the new transport market policy of the European Communities have not been taken into consideration as they cannot be quantified at this stage. However, it is considered that the discussion and recommendations in the present analysis retain their importance and validity, independent of the effects of EC policy. Moreover, the possibility of increasing piggyback transport use through pricing policy measures has not been investigated in this study.

This summary document describes the methodology used, briefly presents the defects on the studied routes, and makes suggestions on how to improve the situation. For information, the infrastructural shortcomings are indicated on the attached maps. Full details of the analysis and the suggestions are included in the comprehensive report [CM(88)15], which is intended for consideration by experts of the Ministries of transport, the railways and the piggyback companies. It should also form the basis for evaluating future progress in the process of overcoming present shortcomings.

The individual transit routes were dealt with by working groups made up of representatives of the countries directly concerned. These routes were those linking:

- Central Europe to South East Europe;
- Central/Northern Europe to Italy via Austria (Brenner);
- Central/Northern Europe to Italy via Switzerland (Saint-Gothard);
- Central/Northern Europe to Spain and Great Britain/Belgium to Italy both via France.

The information, as far as possible, relates to the situation in late 1986.

Methodology Employed

The structure of the individual route reports is as follows: first, information is given on each route, including data on both road and rail traffic, so as to set the piggyback transport into context. Then, details are given on the present operation of piggyback transport and possible future operation is examined on the basis of some hypotheses about traffic. The hypotheses are that, in the year 2000, the share of total goods transport by road that can be carried by piggyback transport is between 10 and 20 per cent. The lower limit of 10 per cent is based on the present share of piggyback transport in trans-alpine traffic. The figure of 20 per cent is an assumption which seems, on the whole, feasible in the medium term. These hypotheses help to clarify where problems can be anticipated if piggyback transport is to become a more significant force on the market.

The road traffic forecasts are based on the findings of the ECMT report "Trends in the Development of International Traffic and Infrastructural Needs" [CM(86)2]. Scenarios (a) and (c) from that report were used; these suggested goods transport growth rates of 4 per cent and 2 per cent per annum, with goods transport by road growing at 4.8 and 2.4 per cent respectively. Scenarios (b) and (d), with identical goods traffic growth rates but with rail traffic growing faster than road traffic were not taken into consideration as a more rapid development of goods transport by road seems more probable than a higher increase in rail transport.

When converting potential goods traffic into additional trains in piggyback transport, the working groups assumed an average weight of 16 tonnes per consignment, 30 wagons per train, and 250 workdays per year.

In analysing infrastructural and other weak points, the Combined Transport Group defined certain standards for equipment, routes and terminals, as well as for transport time. Requirements to be met by border crossing points were also defined. The agreed values for these standards were as follows:

- Maximum speed: 100 km/h¹;
- Weight of the train: 1,200 tons;
- Number of tracks: 2;
- Axle load: 20 tonnes¹;
- Loading gauge UIC B (permissible shoulder height for road vehicles: 3.70 m)¹;
- Signal and telecommunication installations with automatic electric block system;
- Useful length of loading sidings in terminals: 600 m, direct connection of the terminal;
- Average speed of transport (from latest time of acceptance until wagons are ready for unloading): 50 km/h;
- Stop at the border: 20 minutes maximum;
- No stop-overs, if possible;
- Time between latest time of acceptance and departure of the train or between arrival of the train and having wagons ready for unloading: 1 hour maximum, each.

The average speed in piggyback transport must be determined by that of road transport which, according to experience, is also about 50 km/h. Such a requirement for piggyback transport is realistic since this speed has already been attained or even exceeded in some cases.

The various weak points in inland terminals and frontier stations have not always been examined in detail, as this would have gone beyond the resources available to the working groups. It must in general be left to the discretion of the individual states to decide what measures are necessary in each individual terminal or frontier station to solve the problems.

Railway infrastructure measures already planned, together with implementation and cost information, are set out in the May 1983 report of the ad hoc Group on Infrastructure of the 10 EC Railway Companies concerning medium and long-term investment planning for 18 international main lines of communication.

It should be kept in mind that in the first instance, the recommendations in the report mentioned above are intended to improve the competitiveness of railways in general. They will obviously also help piggyback transport as well. In contrast, the recommendations in this document focus more particularly on piggyback transport.

Summary of Main Findings

The analysis of piggyback's weak points draws attention to the problems that may hinder this form of transport from attaining 20% of end-to-end goods transport by road. The analysis shows that, apart from infrastructural measures, administrative and operational improvements are also necessary.

Table 1 indicates the number of trains required on the individual routes on the basis of the selected scenarios in the year 2000.

Table 1. ESTIMATED NUMBER OF PIGGYBACK TRAINS DAILY ON THE ROUTES STUDIES¹

Route	At present 1986/87	Year 2000			
		Scenario A ²		Scenario C ²	
		Piggyback share		Piggyback share	
		10 %	20 %	10 %	20 %
Central Europe-South East Europe ³	24	7	14	5	10
Central/Northern Europe-Italy via Austria (Brenner)	8	14	27	9	17
Central/Northern Europe-Italy via Switzerland (Saint-Gothard)	21	26	54	18	34
Central/Northern Europe-Spain via France	4	4	8	3	6
Britain/Belgium ⁵ -Italy via France	10	14	28	10	20

1. The figures in the Table are obtained from the assumptions used; they obviously preclude policy actions by countries to introduce a different number of trains than those shown.
2. Scenario A: 4% p.a. growth in freight transport;
4.8% p.a. growth in road freight
Scenario C: 2% p.a. growth in freight transport;
2.4% p.a. growth in road freight
3. These trains carry swap bodies and containers between Central Europe and Greece. There are additional trains serving only parts of the route (e.g. connections between Germany and Yugoslavia or Austria).
4. This figure is the number of trains weekly; all other figures show the number of trains daily.
5. These estimates must be treated with caution since some traffic does not transit France and can be included in data for traffic transiting Austria or Switzerland.

In general, the priorities for action are to:

- Increase the loading gauge so as to be able to take road vehicles of at least 3.70 m and, if possible, 4.00 m. and
- Reduce the total transport times.

Improving transport times must begin with reducing the stops en route for adding or detaching wagons. These stops sometimes account for half of the total transport time. Though reducing the duration of stops at borders is also important, border stops are far shorter than those for adding or detaching wagons (at some borders they last 20 minutes, on average about 1 hour, at most 3 ours). In a number of places (e.g. Basle, Salzburg, Saarbrücken, Emmerich) stops at the border serve primarily for the adding or detaching of wagons; at others, for example at the Spanish border, the stops are used for the transshipment of the loaded units. In the latter case, the reason is due to the difference in gauge between the two networks. It is only if the railways do not have to carry out railway-specific work at the border that the shifting or elimination of customs inspections can contribute to noticeable time savings.

The list below is a general summary of the measures required. It is not intended to describe in detail the individual measures that would be necessary. In any case, to list them all in detail would only be possible on the basis of precise technical data and detailed knowledge of the operational and administrative processes. This work must be carried out under the responsibility of the countries directly concerned.

This list summarises the tasks that railways, piggyback companies and transport administrations should see themselves confronted with. Further details are given in the detailed report [CM(88)15]. The attached map illustrates the main problem areas.

a) *On the route Central/South-East Europe*

- i) Increase the maximum speed across the Alps and south of the Alps, in Hungary and Yugoslavia by means of an improvement of the superstructure and signalling;
- ii) Eliminate obstacles to the traffic flow due to single track sections between Salzburg and Belgrade;

- iii) Improve the transport service by shortening overall transport times. At present, the frequent stops en route can lead to delays of up to 40 hours, even with direct trains;
- iv) Reduce the duration of the stops at the frontier between Austria and Yugoslavia and between Yugoslavia and Greece;
- v) Bring about a better connection to the piggyback network for some economic centres in Yugoslavia by means of additional terminals.

b) *On the route Central/Northern Europe to Italy via Austria (Brenner)*

- i) Increase the corner height for road vehicles to 4 m [UIC C1] on the Italian section, since the other sections will allow a corner height of 4 m shortly;
- ii) Improve the terminals, especially those in Hamburg, Cologne, Stuttgart, Munich, Verona and Ala;
- iii) Eliminate delays en route. These can at present exceed 20 hours in transport operations in both directions. Eliminating delays can significantly improve wagon utilisation;
- iv) Study the use of a multi-system locomotive in order to avoid having to change locomotives;
- v) Reduce the time between the end of loading and the departure of trains as well as between the arrival of trains and the time when the goods are ready for collection;
- vi) Switch phytosanitary and veterinary controls at borders to destination stations.

c) *On the routes Central/Northern Europe to Italy, via Switzerland (Saint-Gothard)*

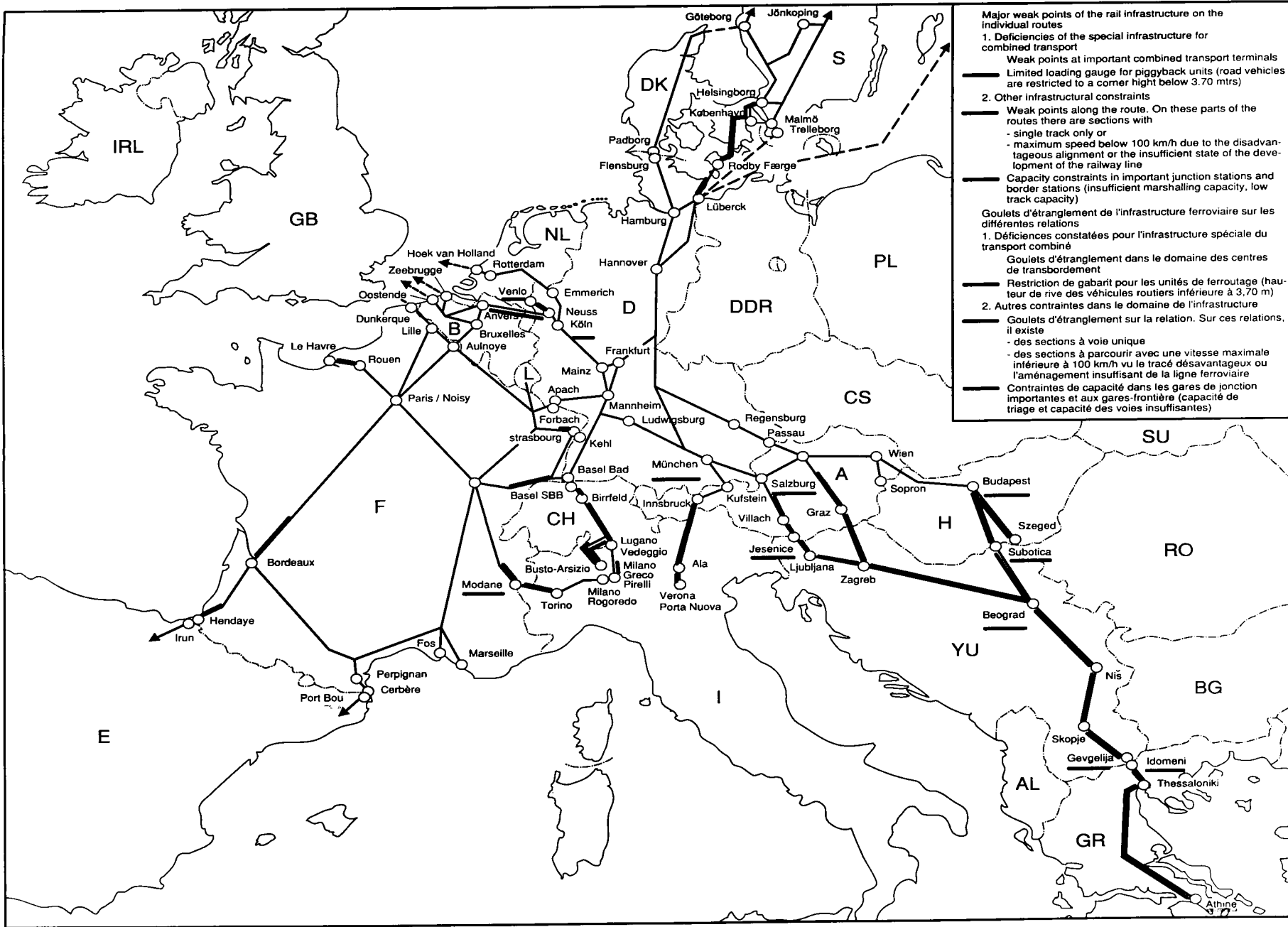
- i) Improve the Swiss and Italian sections to accommodate a corner height for road vehicles of at least 3.70 [UIC B] and if possible 4 m; the other sections comply with this requirement already;
- ii) Reduce total transport times. At present delays en route can be as high as 27 hours in a total journey time of 45 hours;
- iii) Increase the capacity of the railway lines along the Rhine (between Cologne and Mainz);
- iv) Double the track on the section Luino-Busto;
- v) Study the use of a multi-system locomotive in order to avoid changing of locomotives;
- vi) Improve frontier-crossing operations;
- vii) Introduce further block trains;
- viii) Liberalise initial and terminal haulage.

d) *On the routes Central/Northern Europe to Spain via France and Great Britain/Belgium to Italy via France*

- i) Extend the loading gauges on the main lines in France and Italy to cater for road vehicles of 3.70 m. [UIC-B] and, if possible, beyond this to at least UIC B+ (3);
- ii) Improve overall transport times by forming complete trains as well as by improving the punctuality and scheduling of these trains. For example, transport times for traffic which has to be broken into lots on routes to Madrid can be more than 1 full day longer than for road transport;
- iii) Improve the transshipment of loading units at the French-Spanish border; this is necessary on account of the different track gauges;
- iv) Improve the organization in border terminals and of their approach roads;
- v) Switch phytosanitary controls to destination stations.

NOTES AND REFERENCES

1. Irrespective of this, the following values, in line with the European Agreement on Main International Railway Lines (AGC), should be applied to new construction measures:
 - Maximum speed: 120 km/h;
 - Axle load: 22,5 tonnes, at a speed of 100 km/h;
 - Loading gauge UIC C1 (shoulder height of road vehicles: 4 m).
3. B+ gauge: corner height 4.18 m. above the rail) being 8 cm greater than half-width at this corner: 1.36 m.) those in UIC-B gauge



Major weak points of the rail infrastructure on the individual routes

1. Deficiencies of the special infrastructure for combined transport

Weak points at important combined transport terminals

- Limited loading gauge for piggyback units (road vehicles are restricted to a corner height below 3.70 mtrs)

2. Other infrastructural constraints

Weak points along the route. On these parts of the routes there are sections with

- single track only or
- maximum speed below 100 km/h due to the disadvantageous alignment or the insufficient state of the development of the railway line
- Capacity constraints in important junction stations and border stations (insufficient marshalling capacity, low track capacity)

Goulets d'étranglement de l'infrastructure ferroviaire sur les différentes relations

1. Déficiences constatées pour l'infrastructure spéciale du transport combiné

Goulets d'étranglement dans le domaine des centres de transbordement

- Restriction de gabarit pour les unités de ferroutage (hauteur de rive des véhicules routiers inférieure à 3,70 m)

2. Autres contraintes dans le domaine de l'infrastructure

Goulets d'étranglement sur la relation. Sur ces relations, il existe

- des sections à voie unique
- des sections à parcourir avec une vitesse maximale inférieure à 100 km/h vu le tracé désavantageux ou l'aménagement insuffisant de la ligne ferroviaire

Contraintes de capacité dans les gares de jonction importantes et aux gares-frontière (capacité de triage et capacité des voies insuffisantes)

Railways

RESOLUTION No. 24 ON RAILWAYS

[CM(88)24]

The Council of Ministers of Transport, meeting in Paris on 29th November 1988,

HAVING REGARD TO:

- Comprehensive Resolution No. 23 [CM(85)4 Final], adopted in Rome on 29th and 30th May 1985, concerning short-term measures to improve international rail services;
- The reports on the railways [CM(88)10, 11, 12 and 13] submitted to the Council's Luxembourg Session on 25th and 26th May 1988;

BEING AWARE that, owing to constraints attributable to the fact that railways are organised on a national basis, international rail traffic – unlike other modes of transport – always calls for cooperation between the railways of different countries and therefore gives rise to particular problems;

NOTES WITH satisfaction that the railways have already implemented a number of the measures recommended in the comprehensive Resolution, so that by no means negligible progress has been made with respect to technical operation and commercial activities, more particularly in the context of bilateral relations for the development of market research, organisation of co-operation in marketing, improvement of tariff structures, reviews of routing, reduction of journey times, and guaranteed delivery times;

CONSIDERS that these endeavours, however praiseworthy, are still far from adequate. Often too limited in scope, they have not served to curb the decline of the railways whose traffic has continued to diminish because they have not managed to focus their activity on promising segments of the market capable of offsetting the inevitable loss of certain types of traditional traffic;

NOTES that the results are particularly inadequate in the case of international traffic which should, however, be one of the most suitable markets for development by the railways in view of the advantages offered by rail for the transport of passengers on routes on which it is competitive with other modes and also for freight transport over long distances;

CONSIDERS that this matter is of even greater concern in view of the fact that the international market will become still more competitive when the 1992 deadline is met within the European Communities;

REGRETS that, despite the praiseworthy intentions, since the rail community of ECMT as a whole has not succeeded in promoting acceptance of the concept of common interest, it has not managed to adopt a truly common approach that would have enabled it to work out an overall strategy for international traffic;

BELIEVES that the problems experienced in international traffic can only be resolved if the railways are

entirely transformed into responsible and dynamic undertakings capable of identifying the best market opportunities and focusing their efforts on them;

REGRETS that, as compared with the needs, there has been some delay in tackling the harmonization of costing methods, a prerequisite to the establishment of integrated international tariff structures;

CONSIDERS that, if an attractive pricing policy is to be entirely successful, it is necessary to offer rates for equivalent quality services which are competitive with those of the other modes and that, at the same time, the cost of providing rail transport should leave some margin for profit in relation to market prices;

NOTES that the railways are very often burdened by high costs, especially fixed costs, and that their productivity often falls short of that of their competitors;

ACCORDINGLY, with specific reference to international traffic, recommends that the railways:

- Get to know the market better by making greater use of market research techniques and marketing methods. For this purpose they should, in particular, develop forward-looking studies on the foreseeable consequences of the establishment of the open market for transport in 1992 and initiate a long-term process of analysis concerning the future of the railways, particular stress being laid on technological innovations and means of catering for foreseeable demand;
- Refine their costing methods, so as to determine the sectors in which they are really competitive, and try to harmonize these methods in order to make it easier to prepare truly integrated international tariff structures;
- Make greater use of a whole range of technical measures for rationalising operations and reducing the waiting time at frontiers;
- Develop a high-speed rail network on links where this is warranted by the potential volume of traffic so as to enable all or some of the international rail community to benefit from the advantages already enjoyed in domestic traffic;
- Improve information techniques, primarily by making greater use of the scope offered by the HERMES system and by integrating information technology as an operational and marketing tool which can lead to greater productivity;
- Increase their co-operation as regards both passenger and freight traffic by stepping up their bilateral or multilateral activities and by developing forms of collaboration whereby they are seen as the sole intermediary vis-à-vis the customer. It is suggested in particular that services be offered on the basis of tariffs providing for revenue sharing according to the services rendered and including, where necessary, a bonus arrangement for railways booking traffic but on whose territory there is only a short run;

AWARE of the fact that the future of the railways will inevitably be bound up with specialisation and that real solutions to the problems specific to international traffic can only be found in the context of a fundamental transformation of railway undertakings, together with a corresponding reduction in costs and in the complexity of internal administrative procedures, the Council of Ministers also stresses the need for the railways to be free to:

- Concentrate their efforts on segments of the market where they can be competitive, while also remaining free to cease to operate in those segments where they cannot offer a competitive product, an exception being the negotiation of certain public service obligations with the public authorities;
- Carry out the necessary structural reforms;
- Take stringent management measures which may include:
 - The adjustment of manning levels to real requirements, while ensuring that any reductions do not compromise strict compliance with safety standards;
 - The elimination of cumbersome and inflexible hierarchical structures and undue centralisation;
 - Simplification of decision-making channels;
 - Intensive personnel training schemes so as to avail themselves of staff capable of handling the most efficient advanced technologies.

RECOGNISING that the demand for transport that will result from the establishment of a single European market cannot be met without recourse to the railways and that difficulties will be experienced in implementing the measures needed for more stringent management of rail undertakings and greater specialisation, the Council of Ministers considers that it is for governments to ensure that, if the decline of rail transport is not to be accepted as inevitable, they do not obstruct the efforts made by their railways in this connection and, accordingly, take steps to ensure in particular that:

- The railways have the greatest possible independence in running their own affairs, including management of manning levels subject to the reservation set out above; governments must allow the railways freedom to take the decisions necessary to their commercial interests and, conversely, must assume the costs entailed by any obligations that they impose on the railways;
- The indebtedness of the railways is reduced, where necessary, by any appropriate financial measures;
- Appropriate procedures are introduced, where necessary, for the financing and choice of investment projects;
- Distortions of competition are eliminated;
- As far as possible any remaining obstacles to frontier crossing are removed.

On the basis of the recommendations formulated above, the Council of Ministers instructs the Committee of Deputies:

- To monitor the implementation of the 1985 and 1988 Resolutions – particularly as regards giving precedence to matters of common interest and the harmonization of methods of costing and allocating revenues – and draw up an initial report on the progress made in two years time;
- To initiate an in-depth analysis of the challenges for the railways in the future and their consequences for governments, at a first stage focusing on the problems created for them by the 1992 deadline, with a view to submitting to the Council's 1990 Session a summary report on the various studies now in hand in this connection;
- To initiate, at a second stage, a forward-looking study of the longer term which, on the basis of different scenarios for trends in society, focuses particular attention on the scope offered by new technologies;
- To ensure that the UIC is more closely associated with all this work than has been the case in the past.

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REPORTS ON RAILWAYS

MAIN CONCLUSIONS

[CM(88)10]

The measures to be taken with a view to the development of international rail traffic were the subject of four reports approved by the ECMT Council of Ministers and of Resolution No. 23 which was adopted in Rome in 1985. In compliance with the terms of reference laid down by the Conference, the documentation now being submitted for the Council's approval includes a report on endeavours to determine a commercial structure to promote the development of international rail traffic, a review of the application of Resolution No. 23 and a study on high-speed rail passenger transport.

The purpose of this note is to take stock of the progress made, assess the impact on trends in traffic and draw attention to what still remains to be done.

1. The Railways have not remained inactive

The railways have become aware of the need to improve their services in a context that is going to become increasingly competitive. The replies received from 14 ECMT Member countries and the UIC show that by no means negligible progress has been made with respect to technical operation and commercial activities, more particularly in the context of bilateral relations for the development of market research, organisation of co-operation in marketing, improvement of tariff structures, review of routing, reduction of journey times, and guaranteed delivery times. However, while commendable in themselves, such endeavours are still far from enough and in many cases seem to be little more than one-off measures.

2. The continuing downtrend in traffic

Any assessment of the statistics available on trends in international rail traffic is necessarily pessimistic.

The downtrend in passenger traffic is continuing and, from 1970 to 1986, the number of international passengers diminished by 2.8 per cent whereas the equivalent domestic traffic increased by 21.3 per cent. International traffic dropped by 13 per cent between 1980 and 1986, while domestic traffic increased by 2.9 per cent. The share of international traffic in rail traffic as a whole has contracted from 11.0 per cent in 1970 to 9.0 per cent in 1986.

International freight traffic over the longer term since 1974 would seem to have held up better than domestic traffic, although it has diminished by 3.6 per cent since 1980. What is even more disturbing is that the market share of the railways in terms of tonnage loaded has contracted considerably from 40.3 per cent in 1965 to 25.6 per cent in 1985, whereas the road sector's share has expanded spectacularly from 28.2 per cent to 42 per cent.

The measures taken by the railways are therefore clearly inadequate in the light of these results.

Gains of a few minutes on a four to five-hour journey are not particularly attractive to the traveller in view of the competition offered by the airlines. Despite its advantages, the high-speed train cannot remedy the situation on its own as there are so few international links on which existing or potential flows of traffic are sufficiently heavy.

Where freight is concerned, it would seem that the railways have not been able to capture sufficient diversified traffic in order to offset the substantial losses of conventional traffic in heavy products.

3. The essential work is still to be done

The accounts of the application of Reservation No. 23 are disappointing in that the railways are clearly reluctant to tackle the fundamental problems.

Despite the praiseworthy intentions of some railways, the rail community of ECMT as a whole has not succeeded in promoting acceptance of the concept of common interest and thereby focussing less on matters of purely domestic concern. Accordingly, the railways have not managed to adopt a truly common approach that would enable them to work out an overall strategy for international traffic.

If an attractive pricing policy is to be entirely successful it is necessary to offer rates for equivalent quality services which are competitive with those of the other modes. It is therefore essential that the cost of providing rail transport should leave some margin for profit in relation to market prices. Two issues remain unresolved in this connection.

Harmonization of the methods of calculating costs, a prerequisite for the harmonization of tariff structures, has so far only been approached with great timidity. The railways have certainly not all achieved the same degree of sophistication in the evaluation of costs, and their methods of calculation differ considerably. Notwithstanding the fact that the problem is indeed complex, the railways can no longer delay in finding a solution.

Over and above this matter of harmonization, there remains an even more disturbing question: are the costs of rail traffic not in fact too high? The burden of fixed costs is the most formidable of rail's handicaps. The productivity of the rail system as a whole probably falls short of that of its competitors. In order to reduce the burden of costs, the railways must cut back on the volume of resources used and reappraise their working methods. Accordingly, they will have to carry out the necessary structural reforms and take stringent management measures calling for the adjustment of manning levels to the real traffic requirements, the elimination of cumbersome and inflexible hierarchical structures and undue centralisation, the simplification of decision-making channels, and intensive personnel training schemes so as to avail themselves of staff capable of handling the most efficient advanced technologies.

Governments will have to bear in mind that the implementation of such measures will be difficult and, if the decline of rail transport is not to be accepted as inevitable, it is up to them to ensure that they do not obstruct the efforts made by their railways in this connection.

To sum up, if the railways do not ensure that they become responsible and dynamic undertakings, they are condemned to a gradual and doubtless irreversible decline. The figures are cruel but significant and the worst error would be to turn away from the facts. The most difficult part of the road towards recovery still has to be travelled and this must be done quickly and well since only on those terms can the railways survive. It is up to governments to help them in their difficult task, primarily by encouraging them to step up their international cooperation.

REPORT ON ENDEAVOURS TO DETERMINE A COMMERCIAL STRUCTURE TO PROMOTE THE DEVELOPMENT OF INTERNATIONAL RAIL TRAFFIC

[CM(88)11]

(Annexes can be found in the publication
“Rail Network Co-operation in the Age of Information Technology
and High-Speed”)

1. Introduction

For a number of years the Ministers of Transport of the ECMT countries had been concerned about the declining share of the railways in international passenger and freight traffic, so they called for specific studies to be carried out on the improvement of commercial action by the railways and on technical, operational and organisational measures relating to rail services.

Four reports proposing action by governments on the one hand and by the railways on the other were submitted to the Council of Ministers and approved at its sessions in 1983 and 1984. A comprehensive Resolution setting out guidelines for a concerted European policy was also submitted to the Ministers and was approved by them in May 1985.

The Council of Ministers decided that it wished to go still further and called for a study on the requirements for a commercial structure geared to the existing transport market conditions.

Far from being an academic exercise, therefore, this report has been drawn up in response to a policy requirement clearly set out by the Ministers, the aim being to further the work already initiated by the earlier reports. At the risk of being unduly repetitive, it must be said that the European railways have been experiencing an increasingly severe crisis for a number of decades and, faced with the hard facts of a competitive market that will be even more liberalised in the EEC countries by 1992, they have to take urgent steps to enlist every capacity they have in terms of intelligence, imagination and technological innovation in order to remedy a situation that is becoming catastrophic. Rail's share of the international market has continued to diminish, although international rail freight has held up better in recent years than purely domestic traffic. The latter statement does not hold true for 1986, moreover, since in that year there was a fall in the proportion of total rail freight traffic accounted for by international services (see Annex 1). The railways cannot wait until 1992 without doing anything, and those responsible in both governments and the undertakings themselves must take steps to prepare for the consequences beforehand. The question that arises here is whether the railways should set up an international commercial structure to reverse the trend. The choice of the approach to be adopted calls for a reply to two questions: what is to be marketed and how?

This report seeks to provide an answer by restating and refining the recommendations already put forward and by suggesting a few further approaches. It should be noted that the earlier reports were well received by the railways as evidenced by the UIC's response to the Resolution adopted by the ECMT Council of Ministers in May 1985.

In order to compile the data required, the ad hoc Group responsible for drafting this report sent a questionnaire to Member countries which covered the following points:

- Interrelationships between governments and railways;
- Investment;
- Simplification of frontier controls;

- Market research ;
- Operation ;
- Information and computer technologies ;
- Appropriate commercial structure.

Based on the replies to the questionnaire, the report first sets out the prerequisites for the effective establishment of a new structure for rail services geared to market requirements; then, after examining the theoretically feasible solutions, it recommends the marketing structure that would seem most likely to promote the development of international traffic.

2. Prerequisites

Unless a number of prerequisites are met, it may well serve no purpose for the railways to adopt the most appropriate structure for the establishment of the "joint marketing of rail services".

In the reports drawn up prior to the comprehensive Resolution on short-term measures to improve international rail services, which was adopted by the Ministers of Transport at their Rome Session on 29th and 30th May 1985, it was recommended that various forms of action be taken by both governments and railways at the same time. These recommendations are particularly important and may be restated here.

2.1. *The responsibilities of governments*

In the light of the replies to the questionnaire, attention should be drawn to three points: the interrelationships between governments and railways, the elimination of distortions of competition, and the regulation of frontier controls.

a) *Interrelationships between governments and railways*

Two aspects call for consideration in this connection, namely independent management and the financing of investment projects.

- *Independent management*

In order to ensure truly independent management, it is necessary to make a clear distinction between financial responsibilities according to whether the rail services provided involve certain public service obligations or are offered on a commercial basis, it being understood that the railways have to operate both types of service with the same efficiency.

It would seem that the railways are on the whole free to manage their own affairs as regards international traffic and are not subject to public service obligations in this respect, the sole obligation being to cover their costs. It should be pointed out in this connection that real independence means not only the freedom to undertake any new activities that might be profitable but also the right to abandon certain activities that may prove unprofitable.

International traffic cannot however be regarded as entirely separate and the constraints imposed on the networks with respect to domestic traffic are a burden on their financial management as a whole, thus hampering the capacity for initiative in the international sphere. Of all the modes of transport, the railways have the most public service obligations, compensation for which is still provided on a very uneven basis, even within the EEC. The Regulation on the compensation of public service obligations has never been applied in full in a precise way or on a uniform basis by all member States. The situation is no better as regards the Regulation on the normalization of accounts, since many provisions are simply optional. Lastly, in place of the above-mentioned compensation, governments are now tending to provide a greater or lesser proportion of the amount as payments designated as aid in the Community regulations. The situation might well worsen if action were taken on the E.C. Commission's initiatives seeking to impose social rates which may or may not be accompanied by financial compensation. The matter has become more obscure and the railways have not gained. The shortcomings of domestic traffic and government practices as regards compensation for public service obligations and the normalization of accounts have dangerous consequences for international traffic.

Governments must recognise the unavoidable need for the strict application of regulations which they themselves have adopted. The first requirement for any improvement in the financial situation of the railways and for their survival is the clarification of their accounts.

The deficits in operating accounts prompt the railways to take steps to reduce their financial costs by

curbing the funding of investment projects, projects that would help to promote international traffic. Lacking the resources for self-financing, the railways phase the necessary investment over time.

The development of a commercial attitude in the railway undertaking is not encouraged by the fact that it is running a deficit and having to rely on the public purse to balance the operating account. Moreover, the fact that the railways have to call on the assistance of the national community is detrimental to the public image of rail transport.

The governments which own or are shareholders in railway undertakings must assume in full the relevant responsibilities. It is up to them in particular to provide the railways with the funds they need to carry out their activities properly. The railways' indebtedness, which pushes up their financial costs and increases their operating costs and tariffs, thus compromising their competitiveness, will thereby be reduced. To enable railway undertakings to discharge past liabilities, exceptional allocations might be made to them so as to ease the growing burden of indebtedness. It should be noted that the annual financial costs in some cases now amount to 10 per cent or more of total operating costs.

Lastly, it should be noted that independent management should mean that railway undertakings are free to recruit their personnel and determine manning levels themselves.

– *The financing and choice of investment projects*

By and large the railways are not entirely masters of either the volume of investment or choice of projects.

In order to ensure the smooth flow of international traffic and a standard of service which meets demand, the railways must have infrastructure of a continuous uniform quality and tractive and hauled rolling stock which can use the tracks of neighbouring networks and cater for the specific requirements of the various sectors of the market.

In many countries the governments in fact keep the responsibility for choosing the major investment projects and either take direct action by budgetary allocations or loans for financing such projects, or control access to the financial market to make sure that their own wishes are met with regard to the allocation of loan possibilities between the public and private sector undertakings.

One approach to financing rail investment is to cover the full cost of infrastructures (investment and maintenance) out of the public purse and require the railways to pay for the use of it.

Some countries are considering the introduction of such a system or have already done so with a view to ensuring equal terms of competition vis-à-vis the road sector and also to give their rail networks more room to manoeuvre as regards finance. A further aim is to offset a certain weakening in the sense of responsibility in the railway undertakings: despite all the efforts made by management, there is always an imbalance in the operating accounts owing to the burden of past investment.

Other countries consider the railway undertaking as a unit responsible for both infrastructure and operation and think that the above approach is likely to lead to distortions in government/railways relations and deprive the latter of a responsibility that belongs to them owing to the close interrelationship existing between the planning of infrastructure and the constraints of rail operation.

In any event, whatever the system adopted, railway undertakings must fully retain their right to take the initiative and make proposals to the public authorities. It would be contrary to the idea of self-management for railway undertakings if they were denied the right to plan and manage the infrastructure.

Lastly, governments should draw conclusions from the agreements that they have signed and the recommendations they have adopted, namely:

- To integrate into their domestic programmes the commitments relevant to the international rail network “E” (European Agreement on Main International Railway Lines – AGC);
- To invite the railways to implement the recommendation relating to the concentration of international traffic on a limited number of marshalling yards (adopted in Geneva in 1986).

b) *Elimination of distortions of competition*

In a competitive market such as that in the West European countries, governments cannot remain indifferent to the conditions in which the various actors in the transport sector play out their role, and their involvement assumes even greater importance from the standpoint of the elimination of the various constraints – more particularly quota restrictions – which are still imposed on some modes of transport.

Some governments consider that the terms under which rail competes with other modes are ensured on a proper basis, although most of the replies to the questionnaire indicate the existence of distortions to the detriment of railway activity, and these distortions are listed in Annex 2. Essentially, the replies lay stress on the inadequate coverage of the cost of using infrastructures by road haulage and inland waterways transport, infringements of the rules concerning maximum loads for road vehicles, insufficient stringency in applying the working regulations, and unequal tax treatment to the advantage of modes of transport competing with the railways.

Such anomalies have to be eliminated. It is important, especially as regards international traffic, that the railways should be on an equal footing in relation to competing modes, otherwise any measures they take to develop their activity will be ineffective.

c) Regulation of frontier controls

By and large it would seem that the measures adopted by governments by means of international agreements have proved effective. Passenger controls have been simplified in many cases and are carried out on board international trains. Controls relating to freight have in many cases been transferred further inland from the point at which the frontier is crossed.

Attention has still been drawn to a number of shortcomings, however, and these are set out in Annex 3.

It is for governments to pursue bilateral negotiations with a view to eliminating any remaining obstacles.

2.2. The responsibilities of the railways themselves

While action by governments in spheres within their competence is a prerequisite for railways to compete on equal terms, any improvement in international traffic depends on the determination of the railways themselves.

Two essential questions have to be answered, namely: are the railway undertakings resolved to go beyond their individual national interests in order to promote their common interests and are they willing to act as truly commercial undertakings?

Part II of this report analyses the various ways in which the railways might establish a co-operative structure that would cater most effectively for the requirements of their customers.

It is however important to draw attention to the fact that better international commercial co-operation is pointless unless the railways first manage to improve the product to be marketed at competitive prices. All the appropriate measures for improving rail services have been broadly covered in the earlier reports. There is no point in listing them all again in detail but it would seem essential to draw attention to the importance of a few basic recommendations made to the railways, which might profitably adopt the following two lines of approach:

First, the railways should increase their knowledge of the market by making greater use of market research techniques – the purpose of which is to describe the market and explain the relevant trends and responses – and then of marketing methods which, on the basis of this knowledge, serve to shape a policy for the undertaking and put it into practice. The railways should also endeavour to get to know one another better by refining and harmonizing the costing methods used, a prerequisite for establishing international tariffs which are both attractive to the customer and provide a satisfactory return for the railway.

Secondly, if they are to offer a better product the railways must make greater use of a whole range of technical measures to rationalise operations and eliminate frontiers. Two major lines of approach may be recommended: better operating techniques and improved information systems.

– Operations

As regards passenger transport, the recommendations in the earlier reports concerned the reduction of journey times by using vehicles geared to the authorised speed limits on all international trunk lines, improving interchanges, eliminating “unnecessary” stops, dividing up unduly long runs, and using multi-system locomotives.

In the case of freight, the measures tended to cater for the main wishes expressed by rail customers: a guaranteed fast and reliable overall delivery time, with special attention being given to the co-ordination of routing plans on both sides of frontiers and the harmonization of permitted speeds.

The following were proposed as means of achieving this objective:

- Channel traffic on routes on which the highest performances can be achieved;
 - Develop through trains (complete train loads and zone to zone trains) and, failing that, concentrate the different traffic flows on internal marshalling yards where groups of ongoing wagons can be formed by separating the international from the domestic traffic;
 - Improve the crossing of trains onto neighbouring networks by reducing the frontier stops specific to rail transport, making increasing use of the "trust" scheme for technical controls and of multi-system locomotives;
 - Give absolute priority at certain times of the day to freight trains working to guaranteed delivery times.
- *Information*

The earlier reports pointed out that railway undertakings are already making considerable use of information technologies for administrative and operational requirements.

As these different national systems are not compatible, a number of networks co-operated with the UIC to develop a data transmission system, namely HERMES, which is designed first to provide for the exchange of operational data among railway undertakings and then for the transmission of full information on consignments to customers.

The early reports recommended that the networks already linked up with the HERMES system should focus their efforts on extending the system to the largest possible number of international transport activities. They also invited the undertakings that were not as yet members to join the system so as to achieve the widest possible integration of electronic data processing systems.

The note attached as Annex 4 to this report takes stock of the present situation with regard to the HERMES system and the use of computer and information technologies for operational purposes.

It seems that the HERMES system is by no means used to its full capacity and there is regrettably only a small amount of data input for a number of reasons:

- The uneven level of development of the applications specific to each railway undertaking;
- Difficulties experienced in co-ordinating the development of applications;
- The reluctance of these undertakings to implement an authentic common policy for the development of international freight traffic.

It is essential that these matters be dealt with first since computer and information technologies are not ends in themselves but instruments to be used for precise commercial objectives. That being said, the technical aspect cannot be overlooked and calls for the establishment of the technical and commercial structures needed to design and set up systems for the exchange of data among the railways and for the provision of access to certain data for customers. The railways must in fact integrate these technologies not only as operational and marketing aids which can lead to considerably higher productivity and time-saving but also as instruments for communicating with shippers, a function whose development is of vital strategic importance in the context of competition.

In sum, since hardly any of the replies to the questionnaire indicated concern about the risk of the system becoming obsolescent, it is recommended that the railways join the HERMES system and develop the applications in strict compliance with the timetable laid down by UIC.

In this first part of the report, it was thought worthwhile to draw attention to the recommendations made to governments with a view to assigning to the railways real freedom of action as regards international traffic operations, establishing the conditions for competing on equal terms with other modes of transport, and facilitating frontier crossing for rail traffic. In the case of the recommendations to the railways themselves, the aim is to define attractive services to be offered to the customer.

Both governments and railways must adopt a more international outlook. As the railways have to justify their operating results to their national authorities, they tend to give priority to meeting national requirements where their commercial action is concerned. It is however essential that they should not allow the prospects for development of international traffic to be obscured by the short-term benefits to be gained from domestic traffic operations alone. If they see that their efforts are being obstructed by the constraints imposed by the public authorities, it is up to them to inform their governments and jointly ascertain means of promoting commercial co-operation as regards international traffic. Similarly, it is for governments to enable the railways

to optimise all the services offered in the international sector and, more particularly, improve their position vis-à-vis their main competitor, i.e. road transport.

3. The endeavour to determine an appropriate commercial structure

In addition to the problems referred to in the earlier reports – high railway costs leading to high tariffs and operating inadequacies which lower the standard of service –, one of the main reasons for the poor quality of the international rail services offered is the fact that the railways have difficulty in co-operating effectively. The reports approved by ECMT Ministers emphasised the urgent need for the railways to provide their customers with a single intermediary who can cater for their specific requirements promptly, precisely and satisfactorily.

In the light of individual or joint analyses made by the railways and the partial measures already adopted, three possible approaches warrant further consideration:

- The creation of an international undertaking responsible for handling all international traffic;
- The creation of specialised subsidiaries;
- The strengthening of commercial and technical co-operation among the railways through bilateral or multilateral agreements.

The pros and cons of each of the three possibilities should be weighed up with a view to ascertaining the most appropriate solution.

3.1. *An international railway undertaking*

The idea here is to establish a single commercial company, an authentic European railway company, that would be responsible for managing all international railway traffic. It would organise a network of international passenger trains, draw up a freight transport plan, offer competitive rates to customers and ensure only profitable traffic. It would also negotiate with each participating railway the financial terms on which the infrastructures and rolling stock were to be used.

This arrangement may seem rational in theory but a number of difficulties would arise in practice.

In order to meet its objectives, the international undertaking would have to negotiate with the national railways concerning all the technical aspects of operations and also the tariff structures and levels by main types of product on an identifiable market, taking into account the problems specific to each origin-destination link. The undertaking would therefore have to establish a large parallel team of employees responsible for dealing with their opposite numbers in the national railways. This would soon give rise to a top-heavy bureaucracy over and above the existing ones and thus a dangerous increase in costs. Moreover, the settling of differences between an international executive and the national executives would be no easier than in the case of the dialogue between national executives. Accordingly, reaction to market developments would be at least as slow as in the present situation.

The only advantage – though it is of course fundamental – would be that the customer would have a single agent to deal with. Fortunately, an equally satisfactory solution can be achieved by other means.

The first proposal would therefore seem unacceptable.

3.2. *Specialised subsidiaries*

They already exist in the freight sector and are clearly successful. At first sight, it is tempting to suggest they be developed on a general basis, but here too there are many difficulties.

Strictly speaking, there are no subsidiaries in the passenger transport sector, but the railways have developed methods of handling certain well-defined types of traffic, such as the TEN Pool, the Europabus and the Eurail Community, etc. In the case of contracts with tour organisers, a particular railway is responsible for negotiating with the enterprises. Would it be possible to introduce this system on a general basis and set up an undertaking that would handle all passenger traffic in the same way? Once away from the sphere of the predetermined product where the railways can do price analyses and delegate authority, the results are more uncertain since the handling of all individual traffic is quite another matter.

There are certain kinds of traffic that could be handled on the basis of a price for the market. Such is the case on the London-Paris route, where the two railways concerned have a fixed price which is not based on the kilometres travelled. The method is of interest because 80 per cent of the traffic between the United Kingdom and France is on the Dover Newhaven Folkestone and Dieppe/Boulogne/Calais links.

Prices for the market can also be calculated (primarily for groups) on some links where competition is keen and the railways arrange for the mutual delegation of responsibilities under bilateral or multilateral agreements. The MAV and OeBB railways have introduced such prices on the Vienna-Budapest link.

Other than in exceptional cases, this method cannot be applied elsewhere, since most European international traffic is dispersed and so would not really seem to be suitable for this procedure.

Two subsidiaries exist in the freight sector: Interfrigo and Intercontainer. They have been successful for two reasons. On the one hand they can provide shippers with special equipment or special services and, on the other, they handle traffic over the whole network of railways, and this in itself justifies the existence of a single intermediary between all the customers and all the railways.

Each of the other products not depending on these special techniques constitutes a separate market raising problems specific to each origin-destination link, the solution of which depends more on bilateral or multilateral agreements than on negotiations among all the railways.

Other than for traffic which has special features, the use of subsidiaries would seem to be unwarranted.

3.3. *Bilateral or multilateral activities*

Where passenger traffic is concerned, other than in the cases mentioned above, a number of particular solutions are required and involve only a few railways.

The UIC axes groups provide a structure that may well be used in an approach to the problem arising in connection with the major international routes. An axis is defined as one or more rail links between two or more major centres. The groups perform an ongoing task of monitoring the market and laying down an overall policy covering both the service to be offered and the marketing work to be done, and they are comprised of representatives from the “commercial” and “transport” sides. A network organiser is appointed for each axis, while the work is supervised in principle by the commercial representative of the network.

This type of study, which brings together a small number of networks, is useful for relatively quickly drawing up practical projects to be carried out within a short period of time, and the UIC is to be congratulated for taking this initiative in 1979. Recent examples of such projects are the better adjusted timetables on the Paris-Copenhagen link, the electrification of the London-Harwich section on the London-Amsterdam run, and the trial introduction of the “cabine huit”¹ on the Paris-Amsterdam link.

Over and above improving the quality of the service offered, where the sale of this service does not depend essentially on a price for the market, the important thing is to improve the tariff-fixing procedure, the aim being to offer the user a single simple rate geared to changes in the market.

While the international tariff structure was simply the sum of rates in the individual countries, the commercial problem could not be properly solved. Structurally, the European Passenger Tariff (EPT) is not simply the sum of national tariffs, so this is a step forward. Since the EPT meets the above criteria – simplicity, unity, and adaptation to market trends – it should be adopted by as many railways as possible.

Where freight is concerned, bilateral activities originated with tariff agreements which at first consisted of combined tariffs and then through rates which were not bound up with domestic tariffs – insofar as they were based on variations independent of national variations – and finally the current more complex system of common tariff structures which is gradually being introduced.

The aims of the system of tariff agreements are still too limited. The railways have to examine the matter market by market, including market surveys and analysis of the type of product to be offered (train networks, speeds, loads, guaranteed timetables, tariff structures, etc.). The joint technical/commercial facilities at frontiers, introduced at Forbach, Basle, Modane, Port-Bou and Irun, already serve this purpose by providing assistance for selling the services of the railways concerned. Set up initially to monitor wagons crossing the frontier, these offices have moved towards the task of collecting information on the organisation of the neighbouring network thanks to the fact that the officials concerned have been able to communicate with their opposite numbers in the other country in their own language. Accordingly, decision-taking by those responsible for sales has been facilitated.

Aside from these activities at the frontier, there are joint commercial arrangements between some networks whereby a representative of the foreign partner has direct contact with the management of the undertaking. These are essentially tariff setting agencies and responsibilities are delegated to them.

The ultimate aim of the railways must be to establish authentic supply agreements, which closely combine the commercial and technical aspects of the “transport” operation, and eventually to establish a fabric

of such agreements throughout Europe. The UIC has already laid down the operating rules for these agreements and the first ones are now being introduced.

This type of structure would have the same advantages as a subsidiary but would not be as cumbersome. If necessary, subsidiaries might subsequently be used for particular clearly-defined sectors of the freight market.

Common tariff structures are a fundamental requirement for supply agreements. The initial advantage is to make the tariff much more attractive in that it is a single one covering the whole transport operation: the fixed component of the tariff is collected once only, the price per kilometre then being calculated on the basis of the rate and the distance travelled on the route. A second advantage is that the tariff can be adapted to market conditions. For this purpose, the rate has to be set so as to enable the railways to delegate the responsibilities among themselves in order to offer an attractive price to shippers.

This method has much to say for it because it appears to be effective. It comes up against the thorny problem of revenue sharing, but this could be solved.

The wide range of rates has led railways to adopt different approaches. Those with the highest rates in the previous tariff structure are reluctant to lose revenue by adopting the new system, while those with low rates have no fears in this respect, but on the contrary hope to benefit from increased traffic. Lastly, some railways are in an intermediary position, since they have high rates with respect to some neighbours and low ones in relation to others.

The problem is therefore complicated. So it is not surprising that many different solutions have been proposed.

One solution might be to share revenue on the basis of the costs of each of the railways concerned. While seeming fair, because it takes actual expenditure into account, this method has the great disadvantage of penalising railways that have made the most effort to cut costs and favouring those which have shown little increase in productivity. Moreover, this method would call for agreement on an objective evaluation of costs, a problem that is far from being resolved. Accordingly, the method is not likely to be adopted.

Another solution might be to share revenue on the basis of the domestic tariff structures applied previously, but this would not take account of the need to adapt the new tariffs to the situation or the market. Since it would be to the advantage of railways with high tariffs, the method, though not necessarily an obstacle to raising productivity, would not be an incentive to do so. It cannot therefore be recommended.

A third solution would be for each railway to be paid according to the services it provided. In the context of an agreement between two of them, for instance, each would receive half the fixed component as well as its share of the revenue per kilometre, calculated on the basis of the kilometre tariff and the distance run on its own lines. This system appears to be fair, and it has the added advantage of encouraging the partners to improve productivity².

In order to overcome the reluctance of railways hesitating to accept possible loss of revenue not compensated by increased traffic in the early stages, a compromise solution might be adopted provisionally. During an initial period to be agreed upon, revenue could be shared on the basis of the previous tariff structure and only subsequently allocated on the basis of the services rendered.

Some railways have already adopted a variant of this procedure by pooling revenue, which eliminates the need to calculate the relative shares for each forwarding operation. Instead, all the income from a given type of traffic is pooled and then allocated according to an agreed scale. This solution has the great advantage of resolving the difficult question of the need of small networks to acquire more traffic. The pooling agreement can include some kind of "bonus for increased traffic" benefitting the railway that is the source of the extra traffic but which has only a short haul on its lines. This solution has already shown itself to be practical, and it deserves to be adopted, since it settles the problem of short distances in an adequate manner, although difficulties would arise in applying it over a period of time (e.g. need to take account of currency parities, difficulty of introducing substantial changes in operating methods, such as channelling traffic through certain frontier points). The railways are currently trying to find ways of overcoming these problems.

In the absence of pools, it is always possible to come to a special arrangement of this type when sharing out the revenue from systems based on common tariff structures.

Although cost-based revenue sharing should probably not be adopted, the question of costs must by no means be obscured, since it remains central to the railways' problems for three reasons:

- Knowledge of costs is essential for the purpose of setting rates correctly. There is a lower limit for the selling price which must not be undercut if traffic is to be profitable;

- Not all railways have achieved the same degree of precision in assessing costs, and methods of calculation differ widely. Proper costing methods must be worked out. This is a job for the UIC;
- Railway costs are certainly the key factor for competitiveness on the transport market. All efforts to rationalise operating techniques and achieve commercial co-operation would be in vain if the cost of the services offered – and thus the level of their prices – exceeds the rates offered by competing modes of transport.

To sum up, this study shows that railways should be advised to increase their co-operation as regards both passenger and freight traffic by stepping up their use of bilateral or multilateral measures. Where freight is concerned, it is suggested in particular that services be established on the basis of common tariff structures with revenue sharing according to the services rendered, although it is necessary to insure that a compromise solution can be adopted provisionally if the need arises.

4. Conclusion

An analysis of the international transport market reveals a serious deterioration in the position of the railways as the latter's share in both passenger and freight sectors has diminished appreciably, a negative trend that can readily be attributed to a number of causes:

- First, certain changes have occurred on the transport market to the detriment of the railways. In the passenger sector they have had to cope with more flexible and often faster competitors: the private car and the aeroplane. In the freight sector, there has been a shift from bulk traffic to small consignments which road transport is particularly well suited to handle;
- Secondly, because they are primarily concerned with the domestic network, the railways have so far had difficulty in adopting a truly international outlook and have largely failed to provide an international service that is genuinely competitive with road transport;
- Last and certainly not least, governments have not succeeded in placing the railways on an entirely equal footing with their competitors. It still remains necessary to clarify the financial relations between governments and undertakings, and also to eliminate all distortions in the terms of competition.

It would not be true to say that the railways and governments have paid little attention to the problems arising in connection with international rail traffic since, in both the past and present, they have focused in particular on strengthening the role of the railways on the international transport market. The results of their endeavours in recent years have not been entirely negative, moreover, and some of their recent achievements are evidence of a considerable effort to adjust to market conditions.

As regards passenger transport, the European Passenger Tariff has finally been adopted by a large number of West European railways, although it is to be regretted that some countries still regard this tariff as "unremunerative" for the national railway and accordingly reject it. In order to overcome the reservations of such countries, the European Passenger Tariff will probably have to be adjusted but there is no question of returning to the situation as it was before. The UIC axes groups are working to improve services on a link-by-link basis but progress with the studies and the application of their findings is still slow. Since May 1987 the new "Euro-City" trains, complying with very stringent quality criteria, have been offering passenger services to 200 cities in 13 European countries, and it is worth noting that these new services meet many of the requirements set out in the recommendations made by the Ministers of the ECMT countries in 1983. It is important however that these services should not be simply "rehashed" versions of the previous ones. Unfortunately, there are not as yet any appreciable reductions in the journey times of international trains, and severe criticism can still be levelled at the commercial services offered by international trains which are used a great deal. The service provided on some routes in terms of catering, coach maintenance and the standard of sleeper facilities falls increasingly short of what might be expected. Moreover, there are chronic delays and risks to persons and property on board trains. It is clear that traffic may well be lost if the situation is not improved immediately.

The establishment of a high-speed rail network on links where this is warranted by the potential volume of traffic will enable all or some of the international rail community to benefit from some of the advantages already enjoyed in domestic traffic. The rapid establishment of such a network largely depends on decisions by the governments concerned but, in any event, it cannot alone resolve all the problems experienced by the railways on the international passenger transport market.

Where freight is concerned, a few railways have managed to overcome certain operating difficulties

inherent in international traffic and can offer higher standard services which are faster and provide guaranteed delivery times: the GONG and TRES trains and the INTER-DELTA, EURAIL CARGO and NORD MEDITERRANEE services. If the HERMES system is introduced and developed on a general basis in accordance with the timetable drawn up by UIC, it will no longer be impossible to say where rail wagons are and, like the road haulier, the railways will be able to tell their customers exactly what is happening to their consignments. However, the above-mentioned services are only isolated cases among a great many international links.

Despite these steps already taken, the situation remains a matter of concern. However, the railways are going to have to cope with even more serious difficulties when they are faced with keener competition after the free market is established in the European Communities in 1992. Time is therefore pressing and any traffic lost is difficult to win back.

If they are to maintain or increase their share of the market, the *railways* must be able to offer a competitive product and adopt a truly international outlook by co-operating to an even greater extent. More particularly, such co-operation calls for a greater role for bilateral or multilateral agreements and the establishment of appropriate commercial structures in order to:

- Ensure better co-ordination of marketing initiatives;
- Establish products common to two or more railways;
- Provide services that are comparable in terms of reliability and timetables, etc. to those of competing modes.

In order to concentrate their efforts on segments of the market where they can be competitive, the railways must also be able to cease to operate in those segments where they cannot offer a competitive product.

While such measures are necessary, they are not however sufficient. It is necessary to know what to do but it is also necessary to let the customer know what is available. It is up to the railways themselves to establish the marketing facilities for offering the customer the product he wants with the full confidence that the operating techniques will enable them to fulfil the terms of the contract without fail.

The railways must also be convinced, moreover, that they will only win their struggle for survival if the progress made is accompanied by a corresponding reduction in cost and in the complexity of internal administrative procedures. It is not going too far to say that it is a matter of LIFE or DEATH for the railways.

It is for *governments* to ask themselves whether the growing transport requirements that should result from the establishment of the single European market can be met without recourse to the railways. If the reply is no, it is up to them to place the railways on an equal footing with their competitors by eliminating the remaining distortions in the terms of competition. They must allow the railways freedom to take the decisions necessary to their commercial interests and, conversely, assume the costs entailed by any obligations that they impose on the railways.

The efforts to be made by both governments and railway undertakings in the ECMT countries are by no means uniform since the relations between governments and railways have not followed the same pattern in all countries. The railways have experienced uneven patterns of development and their assets in terms of manpower and financial resources differ. The process of harmonizing the relations between governments and railway undertakings must be speeded up and the methods and resources of these undertakings have to be brought up to date.

Both governments and railways seem to be well aware of what is involved; both must be persuaded that the effort to be made is urgent and that the time has come **TO HAVE DONE WITH INTENTIONS AND ACT.**

NOTES AND REFERENCES

1. The SNCF's new second-class carriages equipped with semi-reclining seats whose form provides a more restful journey for passengers who would normally be travelling in conventional seats. No supplement is charged.
2. It is worth mentioning in this connection the community of interests project, developed on the initiative of the Group of 12, which provides for the allocation of revenues on the basis of objective criteria and parameters that essentially relate to the volume and quality of services supplied, a project that has the twofold advantage of:
 - Enabling the sales representatives of the different networks participating in the community of interests to approach the customer as the sole intermediary for determining the price;
 - Encouraging the networks to improve their services and cut production costs, since their revenues are closely bound up with the quality of services and increases in the volume supplied.

REPORT ON THE IMPLEMENTATION OF RESOLUTION No. 23 ON SHORT-TERM MEASURES TO IMPROVE INTERNATIONAL RAIL SERVICES

[CM(88)12]

(Annexes can be found in the publication "Rail Network Co-operation
in the Age of Information Technology and High-Speed")

Resolution No. 23 on short-term measures to improve international rail services recommended a number of steps to be taken either by governments or by the railways themselves.

It also instructed the Committee of Deputies to report in two years' time (i.e. in 1987) on the progress made.

This report lists the measures taken on the basis of the replies received from 14 countries and from the UIC.

1. Implementation of recommendations to Governments

Among the six recommendations, *clarification of the financial relations* with the railways has been the subject of measures in a number of countries where this had not already been done, measures that were often accompanied by the delegation of greater *responsibility to the railways for managing their own business* and, in some cases, an *improvement in the terms of competition*, and arrangements relating to *investment projects*.

Particular attention may be drawn to the measures adopted by *Spain*, which first involve the establishment of a Plan that essentially consists of a number of large-scale investment projects for infrastructure and rolling stock and also lays down production targets whereby some 800 kilometres of track should be able to accommodate traffic at speeds of 250 km/h by 1992. The investment to be carried out in this connection is concentrated on the main trunk lines of communication (North-South axis and the Madrid-Barcelona-Valencia triangle) and on the lines towards France and Portugal.

A Programme Contract between the government and RENFE has also been drawn up and was recently approved by the Council of Ministers, the main aim being to improve the quality of service.

Lastly, changes have been made in the existing tariff structures so that they can develop in line with production costs and the quality of services and, more generally, so that priority can be given to economic criteria with a view to a well-balanced operation.

Portugal has attacked the problem of insufficient capital and indebtedness.

Decree Law 63/83 is designed to put the CP in a healthier position by cancelling those debts to the central government that arise from inadequate compensatory allowances and infrastructure financing.

The other debts have been re-funded under Decree Laws 361/85 and 387/85 so Portugal has set its railways on a sound footing again.

Also in 1985, a central Government/CP programme contract defined the reciprocal obligations of the two parties and the objectives prescribed for the railways.

These measures were accompanied by the internal restructuring of the railway company in order, among other things, to ensure the independence and vigour of its commercial operation, to intensify planning and training and to have one and the same management responsible for both production and equipment functions.

In Austria an amendment to the law on the Federal railways together with a number of Federal Government orders have laid down the public service responsibilities of the national rail undertaking as follows:

- The grant of tariff reductions that would not normally be accorded or maintained under a system of strict commercial management;
- Short-haul passenger transport on the main lines;
- The operation of secondary railways which would not be warranted under a system of commercial management;
- Leave open infrastructure in cases where services are not provided on an economic basis.

The öBB maintain separate accounts for the “public service” and “commercial” sectors. Compensation is paid for losses of revenue and expenditure in connection with the first three types of responsibility indicated above. Where infrastructure is concerned, some of the expenditure on maintenance is borne by the commercial sector as a charge for the use of the tracks.

In Italy, as from 1st January 1986 the Law 210/1985 established the “ENTE F.S.” which gave a new legal structure to the national rail undertaking. Instead of being simply a government controlled undertaking, the railways now have a separate legal status and are responsible for managing their own assets, accounts and finances. They are now subject solely to government surveillance and come under the regulations applicable to commercial enterprises as provided by the Civil Code.

The Board of Management is responsible for running this enterprise which has to satisfy certain criteria in respect of its economic efficiency.

However, it is for the Ministry of Transport, operating externally, to lay down the objectives of rail management with due regard to general guidelines for transport policy. The Ministry of Transport also has to ensure that the management does in fact follow these general guidelines. It also comes within the competence of the Ministry to approve or authorise specific acts by the Company and to appoint members of its Board of Management.

Accounting and financial control within the undertaking is ensured by the Board of Auditors in accordance with the model existing for private undertakings. Provision is also made for external checks by the Audit Office, although this will no longer be carried out for each transaction as in the past but for the management as a whole in accordance with the criteria in force for the government inspection of subsidised undertakings.

As regards pricing, the Board of Management will now be responsible for setting the technical and economic tariff whereby an equilibrium can be maintained in the business, a tariff that has to be established in the light of the situation on the market, including the international market, and must take the form of a price range. In the particular case of domestic traffic it is for the Minister of Transport, in collaboration with the other governmental financial bodies, to establish the tariffs for passenger traffic and for some freight. Any difference between the tariffs approved by the Minister and technico-economic tariffs may give rise to compensation in accordance with the Community Regulation.

The budget of the undertaking no longer has any links whatsoever with the government budget, since it has to be drawn up in accordance with the provisions of the Civil Code in force in other undertakings, with a separate entry for the compensation, contributions and aid provided for under EEC norms as laid down each year, item by item, by the law for the approval of the government budget and by the Finance Act. These regulations call for a statement of the undertaking’s commercial activity in competition with other modes of transport and a statement of the activity relevant to social requirements.

In the Netherlands, clarification of financial relations between the Government and the railways dates back to 1972. Passenger services came under the public service obligation with the deficits being met by the Government in accordance with well-defined procedures. Goods transport by rail is a commercial activity. In 1984, the Netherlands Government entered into a contract with the railways on freight transport which lays down very precisely the respective responsibilities of Government and railways.

With regard to the terms of competition between rail and other modes of transport the Netherlands Government is studying ways of harmonising these as regards the charging of infrastructure costs to users. In the Netherlands there is a distortion in this respect as between rail and waterway transport. The former pays 100 per cent of its infrastructure costs and the latter 2 per cent.

Similarly, in Finland policy discussions are now taking place on changes to be made to the rules of a number of public sector agencies carrying on commercial activities. For the railways this should mean greater

autonomy and full responsibility for the economic viability of their operations with certain exceptions needing to be clearly defined where a public service obligation would be imposed.

In Switzerland, the “services mandate”, applicable from 1982 to 1986, was drawn up in order to clarify railway/government relations. It defined a public service sector eligible for compensation and a market economy sector for the other activities where the yardsticks were purely commercial.

In 1987, a new charter took the process a stage further and ensured a more complete division of responsibilities between the central government and the railways by drawing a line between infrastructure and operation. From now on, the State is responsible for constructing and maintaining the infrastructure which is leased out to CFF. Piggyback transport has, moreover been included in the public service sector.

In Sweden, apart from the fact that the Parliament decides on the size of the rail network and the total annual amount of investment, Swedish railways are very largely independent.

The system is operated on commercial principles. Deficits on unprofitable services that the railways have to provide as a result of Government decisions are subsidised from the central government budget.

In 1985, Parliament approved a policy decision that takes a large step forward towards a system giving the railways full responsibility similar to that applying to road transport. The following measures were taken:

- SJ investment is now split up under three headings: infrastructure, fixed operational installations and rolling stock and other equipment;
- On 1st July 1985 the State wrote off all debts owing to it for capital spending on rail infrastructures;
- Only 80 per cent of infrastructure investment in the commercial network is now included in the public investment on which the Government requires interest to be paid;
- Investment on operational facilities will continue, as now, to be financed out of the State budget, but the whole of the interest payable on the capital invested will have to be met;
- Depreciation will be based on purchase price, not replacement cost;
- Investment in rolling stock and other equipment will be financed by loans from the Comptoir de la dette publique on normal commercial terms and the interest paid on them shall be shown as such in the profit and loss account;
- Deficits shall be entered under liabilities;
- Surpluses after deducting all interest payable on invested public capital and setting off earlier losses entered under liabilities may be used to finance new investment to supplement contributions from other sources of finance;
- The operational activity (goods or passenger traffic) shall be charged with the cost of using the infrastructure by internal accounting procedures.

As regards autonomy, the reply from the United Kingdom confirms the intention of the British Government to have clear financial relations with the railways and to leave them to carry on their business on commercial principles.

Compensation for public service obligations is based on a procedure and rules agreed with BR.

More particularly, as regards investment in the United Kingdom, BR investment plans are approved provided they improve the commercial services and financial results in a profitable manner.

One recommendation related to the elimination of obstacles to the smooth flow of traffic, particularly where *frontier crossings* are concerned:

The Netherlands points out that there are still a number of obstacles for rail traffic at frontier crossings.

First, there is the Netherlands regulation for the transport of dangerous goods whereby wagons entering the Netherlands are required at the frontier to display an orange disc. Secondly, the German authorities concerned require that plant and animal health checks be carried out at the frontier when wagons are entering Germany.

The Netherlands Government is trying to arrange for these checks to be simplified, either by changing the rules or by having them carried out further inland away from the frontier.

The Federal Republic of Germany has concluded agreements with Denmark and the Netherlands to avoid stops at frontiers by forming trains containing no goods that have to be inspected.

In Switzerland, improvements have been made at frontier crossings following the recommendations of

the Commission to Facilitate Frontier Crossing by Trans-alpine Traffic (A-I-D-F-CH) and as a result of the implementation of the Geneva Convention on the harmonization of frontier controls of goods which was ratified by Switzerland on 21st January 1986.

Italy points out that inter-governmental agreements now make provision, on links between Italy and Switzerland or Austria, for joint police/customs controls and for passenger controls to be carried out on the train.

The following improvements have been made for goods traffic:

- Checks have been concentrated in the same area and during the same period of time;
- Sample checks are now made;
- Opening hours of customs offices have been extended to 10 hours per day from Monday to Friday and 6 hours on Saturday;
- Health checks are carried out further inland away from the border, and special provisions are now being drawn up by the Ministries for Health and Agriculture.

However, it would seem difficult to implement the recommendation to the effect that the railways international services be taken towards *integration*.

No government has replied on this matter but the UIC points out that the integration of the railways would first require the establishment of a legal framework and that simply to invite governments to "take" the railways towards integration would not seem to be enough. However, a closer integration of the railways would call for a change in the relationships between governments and their national networks as instruments of domestic policy, or else greater integration of the owner governments themselves, since State railways usually keep pace with their owners. Nevertheless, collaboration – particularly bilateral or trilateral collaboration – has created close interrelationships between the railways.

2. Implementation of recommendations to the railways

The UIC is well aware that the railways have to co-ordinate their efforts to improve the quality and quantity of rail services.

The comprehensive reply from the UIC is attached in annex. It lists all the work done by the UIC, often going back several years, and the joint ventures by two or more railways that point in the same direction as the recommendations of Resolution No. 23.

The replies from the individual railways very often refer to the joint achievements already included in the UIC document. No reference is made to these in this section in which only additional information or initiatives launched outside the UIC's institutional framework are discussed. Some railways have, moreover, drawn attention to the value of bilateral or trilateral projects which can be implemented more rapidly than multilateral co-operation (e.g. DANLINK).

The Resolution n° 23 fixed the objectives set out under A to F below and recommended the adoption of a number of methodological bases [headings a) to i)].

The data received from the railways are set out under the points in the recommendation to which they refer, thus making it possible to ascertain the points on which there has been some progress and points on which difficulties have prevented such progress.

A. PROMOTING THE COMMON INTEREST WHENEVER POSSIBLE RATHER THAN THE INTERESTS OF EACH INDIVIDUAL RAILWAY

Federal Republic of Germany

The objectives of the DB are:

- To define the services it supplies with a quality/price relation geared to the market in view;
- To adjust the company's potential so as to ensure its long-term future in the light of market realities.

Although these objectives are those of most railways, there are conceptual differences in their achievement.

The DB consider that it is difficult to define the general interest of all ECMT railway authorities in view of the diversity of demand in the market sectors they have to serve.

B. SELECTING TRANSPORT MARKETS SLOTS THAT ARE PARTICULARLY SUITABLE INsofar AS THEY MAKE USE OF RAIL'S SPECIFIC ADVANTAGES: LONG-DISTANCE BULK AND HEAVY PRODUCTS TRAFFIC IN THE FREIGHT SECTOR, AND PASSENGER TRAFFIC ON LINKS WHERE THE POTENTIAL VOLUME OF TRAFFIC IS HIGH AND RAIL IS COMPETITIVE WITH THE AIRLINES

Belgium

Freight traffic

- International studies to be conducted on the formation of trains for the trunk routes Belgium-Austria, Belgium-Scandinavia and Belgium-Ile de France ;
- International studies to be carried out on the formation of charter trains on particular routes, which will include those between the ports of Antwerp-Ghent-Terneuzen and Alsace ;

Sweden

- Study of specialised markets and the taking of appropriate measures which had proved advantageous (examples: traffic from Sweden to France, Germany and Italy for forestry products ; to Poland, Federal Republic of Germany and the GDR for wood ; and between Sweden, France and the Federal Republic of Germany for iron and steel).

C. CONTRIBUTING TO THE IMPROVEMENT OF THE ENVIRONMENT BY DEVELOPING COMBINED TRANSPORT THROUGHOUT EUROPE, AND ESPECIALLY THE PIGGYBACK SYSTEM, SO AS TO REDUCE THE DISAMENITIES CAUSED BY ROAD TRANSPORT, PARTICULARLY IN COUNTRIES WITH HEAVY TRANSIT TRAFFIC

Austria

A vast programme for the promotion of combined transport has been carried out in recent years, stress being laid on the development of piggyback services in transit corridors : large-scale investment in infrastructure (enlargement of tunnels) and in terminals, purchase of wagons for combined transport, and the extension not only of piggyback routes but also routes for unaccompanied consignments.

Belgium

Purchase of 100 wagons for combined transport.

Denmark

Purchase of rolling stock for combined transport – enlargement of certain terminals – formation of a company for rail/road transport.

Federal Republic of Germany

Specific investment in combined transport facilities in 1987.

Norway

An agreement has been concluded with the Swedish piggyback company.

Sweden

On the initiative of the Swedish railways (SJ), a new company for combined rail/road services was set up in 1985, and the shareholders are the SJ, and private forwarding agents and road hauliers (S-Combi).

D. IMPROVING THE QUALITY OF SERVICES OFFERED, PAYING PARTICULAR ATTENTION TO THE COMPETITIVE SITUATION VIS-A-VIS OTHER MODES AND THE WISHES EXPRESSED BY CUSTOMERS

Federal Republic of Germany

Passenger traffic

- Development of EURO CITY standard high-quality trains based on the IC train experiment. The DB are involved in 31 daytime and 2 nighttime services;
- Improvements in service: additional personnel on board, installation of telephone in IC trains, catering improvements, facilities for the disabled and women with small children, provision of information for passengers;
- Facilities at stations are also being improved: baggage conveyors, catering, parking, car-hire, etc.).

Goods traffic

- "Intercargo" service: 100 kmph trains between 11 major economic centres (about 100 linking about 1 000 stations in one night) – on some links there are connections to other countries;
- TRES trains with Italy – extension of the GONG network to Benelux and France;
- Formation of through trains to other countries since summer 1986 under the name of TEF;
- Guaranteed delivery time services with Austria, Switzerland and France;
- Weekly "charter" trains with France and Denmark since September 1985.

Austria

Passenger services

- Participation in the EURO CITY network with 14 pairs of high-quality trains;
- Reduction of journey times;
- Improvement of service provided in international trains;
- Various types of complementary service provided.

Goods services

- Reduction of journey times;
- Extension of the TEEM links;
- An increase in the number of GONG trains on services to and from Germany;
- Introduction of guaranteed delivery time services with Germany (since June 1985) and Switzerland (since October 1987).

Passenger and goods transport

- Participation in international market research for the major axes;
- Establishment of a marketing strategy under the Austrian concept of "the new railway", the most important measures being:
 - For passenger traffic: the introduction of an integrated interval timetable by stages up to 1991, new high-quality train services, extension and improvement of driver-accompanied car transport

services, reorganisation of night-train services, extension of the “office in the train” service, and improvement of information provided;

- For goods traffic: improvement of customer information and assistance services, development of logistics, extension of combined transport and introduction of the “Rail Express” system for international traffic as well.

Belgium

Passenger services

- Readjustment of services (and market prices) on the Paris-Brussels-Amsterdam route;
- Better trains on the Brussels-Zurich route;
- New South-East/North-West links in England connecting up with jetfoils/ferries at Dover (without going through London);
- Improved services (speed and connections) on the Amsterdam (Ostend)-Hamburg-Munich-Klagenfurt/Innsbruck routes;
- Complete renewal of rolling stock on Benelux services (Brussels-Amsterdam) with interval-service timetables.

Goods services

- Reactivation of INTERDELTA services in Autumn 1986;
- Improved routing between Belgium and Italy on both the left and right banks of the Rhine;
- As from 1st April 1987, the marketing of “RAILEASY”, a data communications system enabling customers to locate wagons in real time on the BR-SNCF-SNCB-DB railways. To be extended to other railways as from 1988 (FS, CFF, Scandinavia, öBB, MAV, etc.);
- Gradual improvement of the network to take D 4 freight wagon traffic;
- Introduction of guaranteed delivery time services on 1 050 links between France and Belgium (marketed under the name GARANTIE-CARGO);
- Introduction as from 1st June 1986 of a guaranteed day A/day B delivery service on over 96 per cent of domestic routes. Gradual link up of these domestic services with services on neighbouring railways.

Denmark

- Agreement on common policy for “general cargo” among Scandinavian countries,
- Launching of “interchangeable platforms” in 1984,
- DANLINK: improvement to ferry service, Sweden, Denmark and Federal Republic of Germany (new equipment, new crossing),
- Transport monitoring centre in Copenhagen,
- Goods train speeds up to 90 kmph and loadings up to 22.5 tonnes per axle on major routes.

Spain

Passenger services

- Participation in the EUROCITY network of high-quality trains with three Talgo international through trains: Paris-Madrid, Paris-Barcelona and Geneva-Barcelona;
- Reduced journey time of the Paris-Madrid Talgo by increasing the top speed to 160 km/h on sections of the route in Spain;
- Introduction of air-conditioned coaches in the Puerta del Sol (Paris-Madrid) train on the part of the journey in Spain;
- Introduction of air-conditioned coaches on the Madrid-Lisbon night train;
- Reduction of journey time of the Paris-Lisbon/Porto “Sud-Express” on the part of the journey in Spain;
- Advanced studies carried out jointly with the French, Italian and Swiss railways with a view to:
 - Introduction as from Summer 1989 of a new Barcelona-Milan/Zurich night through train using improved Talgo Pendular sleeper stock;
 - Replacement of the existing Catalan Talgo stock by improved Talgo Pendular stock;
 - Introduction of two new Talgo through day trains: Barcelona-Toulouse and Barcelona-Montpellier.

Goods services

- Participation of the RENFE in the EURAIL EXPRESS network of international fast parcels services.

France

Passenger transport

As regards the unification and improvement of international rail services, the creation of the Paris-Lausanne (Berne) and Paris-Geneva TGV (high speed trains) call for special mention.

Out of the sixty or so trains making up the initial EUROCITY network – and therefore meriting the international quality label in the railway sphere – nearly half begin or end their journey on the SNCF network.

Goods transport

France-Italy

- Confirmation of the success of the TRES (trains rapides, économiques et sûrs, i.e. fast, cheap and reliable trains) instituted in 1981 to run from north-east Italy to France (250 000 tonnes a year);
- Creation in 1985 of a TRES-4V (Verona-Vicenza-Venezia-Villa Opicina) for French exports to north-east Italy (150 000 tonnes in one year) and a TRES-Lombardy in January 1988;
- Experimental launching, early in 1986, of the first “charter” train from the Provins area in France to that of Alessandria in Italy. This is to be a weekly service for a number of users in which they have to book in advance.

France-Belgium-Netherlands

The INTERDELTA service (between the Rhine and Rhone deltas) was restructured for the winter of 1986/87 to meet users requirements. It is now a bi-weekly service, routing delays have been cut down, timetables have been improved and delivery times are guaranteed.

France-Federal Republic of Germany

In January 1987 the DB and SNCF introduced the “NORD-MEDITERRANEE” with five services each week between northern Germany and south-east France. Delivery times are guaranteed.

France-Scandinavia

- Introduction of a once or twice weekly charter service between France and Denmark (both ways) in September 1985;
- Introduction of a bi-weekly service in January 1987 between Sweden and France, by pooling individual shipments; supplemented as from March 1988 by a weekly SCAN-EXPRESS service between Creil (north of Paris) and Trelleborg.

Introduction of guaranteed delivery times

Guaranteed delivery time services under the heading “GARANTIE CARGO” have been extended to links between the SNCF and the following:

- SNCB and NS as from the winter of 1986/1987;
- CFF in March 1987, and
- DB in March 1987.

Italy

The Italian railways have carried out a number of surveys together with neighbouring networks (France, Switzerland, Austria) in order to analyse traffic and ascertain user requirements (both passenger and freight).

Ireland

Collaboration with the SNCF for the reservation of seats or sleepers.

Norway

Goods services

- Member of the international container transport pool;
- Participation in DANLINK since 1986;

- Many simplifications made to international goods transport;
- Cooperation with a large number of international shipping agents.

Passenger services

The following passenger transport measures have been taken since 1985:

- CC/WL Oslo-Hamburg through train;
- Through day train and wagon connections from Oslo-Copenhagen trains to various German towns;
- Catering in trains;
- Improved provision of information.

Netherlands

- Effort concentrated on specific markets (young people, families, old people) or specific rail links;
- Study on improving the Amsterdam-Cologne line (new rolling stock);
- In goods transport, the NS is trying to increase the number of full trains and containers and through services between major economic centres (Interdelta, Bavaria Express, etc.);
- Participation in the Paris-Brussels-Amsterdam high speed link.

Portugal

Strengthening of relations with the RENFE producing the following results:

- Joint studies on fare and rate tables;
- Elimination of certain problems on international trains;
- A promotion campaign on the introduction of new rolling stock on the Lisbon-Madrid link;
- Improvements on the Lisbon-Madrid link (new Talgo II train - journey time: seven and a half hours);
- Setting up of a joint committee on international goods traffic;
- Substantial reduction of journey time between Irun and Vilar Formoso;
- Measures regarding customs formalities;
- Speeds to be increased to 140 kmph on the Medina-Fuentes de Onoro and 160 kmph on the Medina-Irun lines as of 1988.

Sweden

- Cooperation with shipping and travel agents in marketing "door-to-door" services;
- Improvements on passenger services, especially in IC trains (telephone, facilities for families and the disabled, couchettes between Stockholm and Oslo and Hamburg);
- Extension of the TEEM links (Sweden-Italy and study of Sweden-France). Adjustment of time tables to those of the ferries. Simplification of fares and rates. No frontier halts once off the ferry.

Switzerland

Since early April 1985, a TRES train has been running on weekdays between Bologna and the Federal Republic of Germany via Chiasso and Basel. The service is intended for shippers of industrial products in the Emilia-Romagna and Tuscany areas. The goods reach all destination stations in Germany in 72 hours. In the opposite direction fast GONG trains carry consignments from Mannheim to Chiasso in eleven hours.

E. KEEPING TIGHT CONTROL OF COSTS IN DEVELOPING TRAFFIC SO AS TO ENSURE THAT, OTHER THAN IN THE CASE OF SELECTIVE PROMOTIONAL MEASURES, ONLY PROFITABLE TRAFFIC IS IN FACT CARRIED

Denmark

DSB is under an obligation to carry and cannot give up unprofitable services.

Sweden

Detailed cost analysis is being carried out to identify profitable services and projects.

F. STEPPING UP AS QUICKLY AS POSSIBLE THE INTERNATIONAL CO-OPERATION AMONG RAILWAYS WHICH ARE MOST INTERESTED AND BEST EQUIPPED, SO THAT CO-OPERATION WILL LEAD TO A GRADUAL PROCESS OF INTEGRATION

It should be borne in mind that the “group of twelve” enlarged to include the CFF and ØBB is an example of the active co-operation among the railways concerned. As regards the United Kingdom it may be noted that the physical separation of the British network from the railways on the continent limits the scope for developing international services but the decision to build the Channel Tunnel will open up new possibilities for co-operation with them. This is also the case for Ireland which, owing to its geographical location, cannot fully participate in all the measures recommended by the ECMT.

The introduction of international through tariffs is one aspect of railway co-operation pursued by a number of networks and, in this connection, attention may be drawn to the following in the case of goods transport:

- Reform of the wagon rate structure for Scandinavia completed in 1987;
- Simplified full-load rates for Denmark’s links with Germany and Italy; this type of rate is also in mind for France;
- Simplification of international through rate structures; there is for example the new Franco-Nordic rate, which was entirely remodelled on 1st January 1988, and the rate that is to be introduced between Benelux, the North Sea ports and Italy via Austria, Switzerland or France, now including the FS section of the journey. Through rates also exist between the Federal Republic of Germany, on the one hand, and the Nordic countries, the United Kingdom and the Netherlands, on the other;
- A new generation of international tariffs with “common rate structures” are to be introduced gradually and they take a much simpler form than through rates since:
 - They no longer have to make reference to domestic rates;
 - They are quoted in a single currency from end-to-end of the run;
 - They are calculated by means of a rate structure common to all the participating networks;
 - They ensure stability of prices, usually over a one-year period (unless there are major fluctuations in exchange rates).

A number of rates of this type already exist, such as that for wagon-load traffic between the United Kingdom and Italy, the Germany-Belgium and Germany-Switzerland rates, France-Switzerland rate (since June 1986), France-Germany rate (since January 1987), France=Spain rate for cereal traffic (since July 1987), France-Italy rate (since January 1988), and the France-Netherlands rate which is at present being modified and simplified.

On the whole, the international rates introduced in this way are for reference purposes; the prices that are indicated by them can be negotiated so as to make a competitive offer.

The difficulty as regards the introduction of a genuinely international tariff is to decide whether the revenue is to be allocated among the networks on the basis of costs or service supplied. In addition, there is the serious problem of the extent to which the railways agree to delegate responsibilities among themselves.

As regards passenger traffic, eight railways have adopted the TEV: Belgium, France, Ireland, Italy, Luxembourg, the Netherlands (for transit only), the United Kingdom and Switzerland.

However, the DB considers that, while the TEV enables common fare structures to be established – so there are no changes for the user – it cannot be expected that this alone will have an effective impact on the market. The DB considers that it could carry major risks as regards revenues because the effects of unilateral changes in other railways’ units of account cannot be evaluated and because the fare structure itself could set unforeseeable trends in motion owing to disparities between national currencies and units of account (UIC Francs).

It should also be noted as regards passenger transport that the Spanish, French and Portuguese railways have reached agreement on a new tariff structure for young people in the form of an international pass that can be used on the three networks.

While issues relating to tariff structures are fundamental[0B] to rail co-operation, such co-operation can and must be developed in other fields such as:

- Frontier-crossing facilities: establishment of joint offices to assist salesmen for the two networks in constructing the package to be offered (knowledge of conditions at both ends) and in monitoring the

operation. Since March 1986 a joint office of this kind has existed in Basel. (Such offices already existed in Forbach, Modane, Port-Bou and Irun);

- The current process of discussion and analysis within the UIC with a view to setting up a centralised information system for passenger traffic (Global Distribution System – GDS) such as the Amadeus and Galileo systems used by European airlines.

a) Harmonize methods of calculating costs, a prerequisite to the harmonization of tariff structures

Sweden

The only country that replied concerning this point in the Resolution, Sweden points out that there has been no success with implementation of the proposal that fare structures and cost calculations for international traffic be harmonized.

b) Select the most appropriate criteria for routing international traffic

Sweden

The time-table conferences (CEM-CEH) look for the best routes but the fact that countries' attitudes differ towards the role of their railways sometimes stands in the way of an optimum solution.

c) Adopt common methods, not only for settling railway accounts but also for sharing the advantages and sacrifices

Switzerland

A single method of allocating revenues or losses on given transport operations involving several railways is difficult to achieve, since the conditions for each market union (traffic from one country to another) often differ considerably (fare and rate levels, distances, costs, etc.). Research is currently being carried out in this connection at the request of the marketing directors of the enlarged group of twelve. The France-Switzerland union, alongside the Germany-Scandinavian, has been selected as pilot market union for the purpose. The initial results will not be available until next year.

d) Act as a single operator towards customers, assuming responsibility for the transport operation from the point of departure to the destination

Handle the transport operation as a whole, incorporating allied services as the customer wishes, insofar as warranted from a commercial standpoint

Finland

The SF, S, D, CS, A and I railways have collaborated with forwarding agencies to establish an integrated wood, paper and pulp transport route, sold as a package covering both the transport and storage if needed.

Ireland

With its Navigator freight service, the CIE provides a complete export/import package (co-ordination of shipments, storage if required, preparation of customs documents, etc.).

Sweden

In general, rail transport services provided by the Swedish railways include the additional services sought by the user.

e) Harmonized methods of obtaining information about the market by adopting a common approach to market research and marketing.

Assign to marketing the role it deserves in business strategy so as to ensure that technical and commercial requirements are evenly balanced:

- *Austria* pointed out that the öBB was participating in international market research for the major axes;
- Co-operation exists between the railways of the four *Nordic countries* as regards marketing, and they also co-operate with the shipping companies. In *Finland*, the role of marketing was broadened by the reform of 1st March 1987;
- Similarly, the railways in *Ireland* have established commercial co-operation with the railway services in Northern Ireland and Great Britain to develop marketing and promotion policy and to try to reduce the complexity of tariff structures;
- In *France* and the *Federal Republic of Germany*, mention should be made of the commercial cooperation between the SNCF and DB (marketing, sales representation, shared offices, experimental exchange of salesmen);
- In *Switzerland*, special attention is being paid to communication in the practical form of:
 - Joint promotional events (for example, DB/CFF, SNCF/CFF);
 - Meetings of sales staff from the railways concerned;
 - More co-ordination of sales efforts;
 - Establishment of joint offices at frontier stations, e.g. at Basle CFF (SNCF/CFF) and Basle Bad Bf (DB/CFF) and shortly at Domodossola (FS/CFF).

CFF sales development research has resulted, for example, in the adoption of a joint SNCF/CFF marketing strategy. Another example is the market study commissioned jointly by the FS, SNCF, DB, BLS (Berne-Lötschberg-Simplon) and CFF with the object of promoting goods traffic on the Simplon line.

- f) Separate international traffic from domestic traffic by reviewing the network of passenger trains and freight routing plans

Switzerland

In the case of the CFF, separation between domestic and international traffic is already in operation for goods traffic in transit. For imports and exports it is only possible when the quantities carried are large enough to make up block trains or zonal trains. Separation between domestic and international passenger traffic is neither feasible nor desirable. On the Swiss section, international trains are fitted into the interval service timetable.

- g) Take more vigorous measures to resolve the difficulties caused by technical incompatibilities between railways as regards
- Type of electric current;
 - Track gauge;
 - Signalling systems;
 - Braking systems;
 - Running speed;
 - Loading gauge;
 - Axle weight;
 - Technical norms for wagons.

Austria

It is planned to purchase multi-system locomotives for the Brenner line.

Spain

The first cereals train consisting of wagons with interchangeable axles has been introduced on an experimental basis.

Sweden

Work on problems caused by technical incompatibilities:

- Different power supply in Denmark;
- Track gauge difference with Finland;

- Difference in signalling with Norway ;
- Loading gauge of coaches.

Switzerland

Introduction of new multi-system locomotives on lines into Italy is being studied, but the time saved will have to be enough to offset the high cost of these vehicles.

- h)* Improve the infrastructure of heavy traffic lines and eliminate bottlenecks where feasible in economic terms

Federal Republic of Germany

The laying of new track sections and other alterations now in hand will bring improvements in both international and national traffic.

Austria

A number of investment projects have been carried out in recent years, primarily to improve infrastructure on some major transit corridors: work on doubling the track and individual realignment projects. The railways of the Federal Republic of Germany, Austria and Italy have assigned a feasibility study to an international consortium with a view to investigating the possibility of constructing a tunnel under the Brenner together with access tracks. Under the Austrian “new railway” concept there are major plans for infrastructure, more particularly the construction of new high-speed lines. One of the first projects to be carried out will be the Innsbruck by-pass (which is compatible with all variants of the tunnel under the Brenner now under discussion).

Greece

Since 1985 the network is in the process of improvement as a result of increased speeds, adoption of international standards for the Athens-Salonika-Idomeni lines, modernised signalling and electrification.

Italy

Investment projects have been carried out over the past five years to improve international traffic flows (transit via Vintimille – transit via Modane: doubling of the Chiomonte-Dussoleno line) and some projects are still under way on the main transit lines (doubling of lines – realignment of the track – improvements at major junctions). Such work relates to the transit routes via Vintimille, Modane, Tarvisio, Chiasso and Brenner.

In addition, the following investment projects in the high-speed sector are :

- Completed:* Rome-South Arezzo and Figline Valdarno-Rovezzano on the Rome-Florence Direttissima line ;
- Under way:* South Arezzo-Figline Valdarno on the Rome-Florence Direttissima line ;
- Planned in the longer term:* Turin-Milan-Venice, Milan-Bologne- Florence, Rome-Naples.

Switzerland

The following infrastructure plans to 1990 are in hand: the Loetschberg line will be doubled all the way from Spiez to Brigue ; in the South, the new station at Domodossola should permit optimal handling of future traffic. In addition, consideration is currently being given to the possible construction of a new rail-based tunnel under the Alps, together with the necessary access routes.

- i)* Reduce journey times by eliminating “unnecessary” stops for passenger trains and introducing more through trains for freight, raising maximum speeds, reducing delays at frontiers by appropriate measures relevant to rail operations, such as the use of multi-system locomotives, the reorganisation of marshalling operations and broader use of the so-called “trust” scheme for wagons

Austria

It has been possible to reduce the number of stops at the frontier for traffic with Germany and Italy by adopting the so-called "trust" scheme for wagons and by providing advance notice of train arrivals. GONG trains between Germany and Austria stop for only a few minutes at the frontier.

Belgium

Trains similar to the GONG trains have been introduced for all exchange traffic with the DB on the one hand and with the SNCF on the other. Secondary frontier points have been closed and traffic is being channelled onto high-performance routes.

France

Procedures for the exchange of rolling stock have been further simplified because five railways (CFL, DB, NS, SNCB, SNCF) have harmonized their bilateral agreements so as to establish a geographical area within which wagons are exchanged under the "trust" scheme.

Consideration is also being given to the admission of exceptional consignments and dangerous goods since the trains carrying such goods are at present excluded from the trust scheme.

Where applications as regards movements are concerned, the advance notice of train arrivals has been operational since March 1985 between the CFF, DB and SNCF and was subsequently extended to the SNCB and BR.

Mention may also be made of the introduction of two commercial applications for freight:

- A wagon location system is in operation between SNCF and the following railways: BR (since October 1985), SNCB (since March 1986) and DB (since December 1987);
- The frontier crossing system was introduced in June 1986 between SNCF and BR.

In order to speed up freight traffic, the following measures have also been taken:

- Extension of the reciprocal technical inspection agreements;
- Formation of through trains or groups of wagons to points beyond the frontier;
- Development of simplified computer procedures for customs clearance;
- Introduction of telecommunications systems for freight data.

Working in the same direction, a comprehensive study has been undertaken with a view to transferring the following operations to marshalling yards well integrated in the domestic network:

- The completion of administrative and customs formalities;
- The formation and splitting up of international trains and groups of wagons.

This pattern of organisation is being applied successfully at the main France-Belgium frontier points.

The encouraging results already obtained in this connection or expected in the near future must not, however, be allowed to conceal the fact that the endeavours of the railways are limited by the administrative obligations that they must still meet.

Greece

The following measures have been taken:

- Working groups have been set up with the German, Austrian, Yugoslav and Italian railways in order to determine ways of improving international passenger transport (reduced journey times, elimination of stops, etc.);
- As from the 1986/1987 timetables, a Munich-Athens through train with no re-formation or marshalling ensures the carriage of freight between Central Europe and Greece;
- Improvement of the Greece-Syria and Greece-Italy ferry links.

Italy

Technical inspections of rolling stock at the frontier stations of Brennero, Ventimiglia, Limone, Modane and Tarvisio were simplified as a result of the introduction of the reciprocal technical inspection whereby stock is accepted on the strength of the inspection by the railway sending it. This procedure is limited to a small number of trains and precluded for trains with special loads.

Journey times for international passenger trains in transit via Brenner have been reduced since 1st June 1986 to varying degrees according to the particular train but up to as much as 80 minutes (Munich-Naples).

Ireland

Particular attention has been given to establishing good connections between the railways and ferry services.

Sweden

There is little realistic prospect of significantly reducing journey times, although when the high-speed trains are in service the situation should improve considerably.

Switzerland

By means of the Rail 2 000 programme, the running speed might be increased as a result of the improvement of several sections of the Swiss rail network. However, such improvements are limited owing to the mountainous nature of the country.

Problems highlighted by the replies

A few general remarks found in the replies will serve to draw attention to the difficulties involved in applying some of the recommendations in Resolution No. 23 and also to the limitations of such an exercise:

UIC

This organisations's reply draws particular attention to:

- The problem of capturing the interest of railways that handle little international traffic;
- The limits imposed by the national authorities on railways when they plan to abandon unprofitable traffic or lines;
- Problems relating to the assessment of costs by the different railways and the substantial character of fixed costs which induces them to assign more importance to the contribution of each transport operation to the coverage of these costs rather than to profit in the strict sense. The railways therefore try to use the infrastructures to the maximum even if they are being used for transport operations that show little return.
- The process of taking account of the overall profitability of an international transport operation is not always compatible for some railways with the profitability required by the State, more particularly for the purpose of covering fixed costs;
- The railways welcome the recommendation concerning investment but consider that it is not enough to "establish the appropriate conditions" since it is necessary to plan the infrastructural improvements in general as a government responsibility and, moreover, as the major factor in the harmonization of the terms of competition and clarification of their financial relationships with their respective governments, as the railways have demanded for a long time.

The fact that improvements cannot be envisaged solely from the standpoint of internal profitability is particularly well illustrated by the process of increasing the loading gauge, the aim of which is to extend the piggyback systems and relieve congestion on the roads. The same applies for continental wagons travelling on lines in the south of the United Kingdom.

Federal Republic of Germany

In conclusion, the DB has the following comments to make as regards external problems:

- The development of high-speed links is important for the future of the railways;
- Given the economic and demographic density of Europe, the railways are unquestionably of value. However, if they are to fulfil their role, they will have to be given an appropriate framework with equal terms of competition. Attention may be drawn to the following conditions among others:
 - The government should assume responsibility for the infrastructure and establish a charge for its use by the railways;
 - The necessity of a government/railways contract establishing the services and payment for them;
 - The establishment of a financial structure for the undertaking (or at any rate the payment of debts);

- The harmonization of the tax conditions for the railways (i.e. discontinuance of the tax relief for the other modes or equal treatment).

Greece

The Greek reply stresses that, despite the efforts made to improve mass transport over long distances, no significant results have been obtained for the following reasons:

- Peripheral location of the country;
- The geography of the country prevents the development of lines across the territory;
- There is a lack of suitable infrastructures for the development of combined transport;
- The structural advantages of road transport.

Lastly, attention is drawn to the following points in the ECMT Resolution which are of particular importance to a small peripheral railway system that does not have advanced technology:

- Promote the common interest rather than the interests of each individual railway;
- Develop close co-operation with other railways so as to speed up the process of gradual integration;
- Analyse the productivity of an international link in terms of the networks as a whole and not solely from the domestic standpoint.

Conclusions

The replies reviewed above indicate the railways' awareness of the need to improve their services in an environment that is going to become increasingly competitive.

It is however difficult to assess the impact of certain measures. While initiatives such as the TRES and GONG trains and the introduction of guaranteed delivery times are clearly of the kind to meet user expectations, it may well be asked how attractive it is for a passenger to save 15 minutes on a four to five-hour journey as compared with the competition offered by air travel.

The efforts to modernise and improve rail services obviously have to be pursued actively, but the structures are heavy and it is always difficult to get a number of railways to work together when they are confronted with different domestic situations. However, international rail traffic will never be better than the weakest link in the chain. Furthermore, financial issues continue to be very hard to resolve, and it is significant to note that the recommendations in Resolution n° 23 which did not receive a positive response are those stressing the need to consider the profitability of the overall journey and not solely the domestic part of it or, alternatively, those relating to the harmonization of methods of calculating costs or common methods of settling accounts.

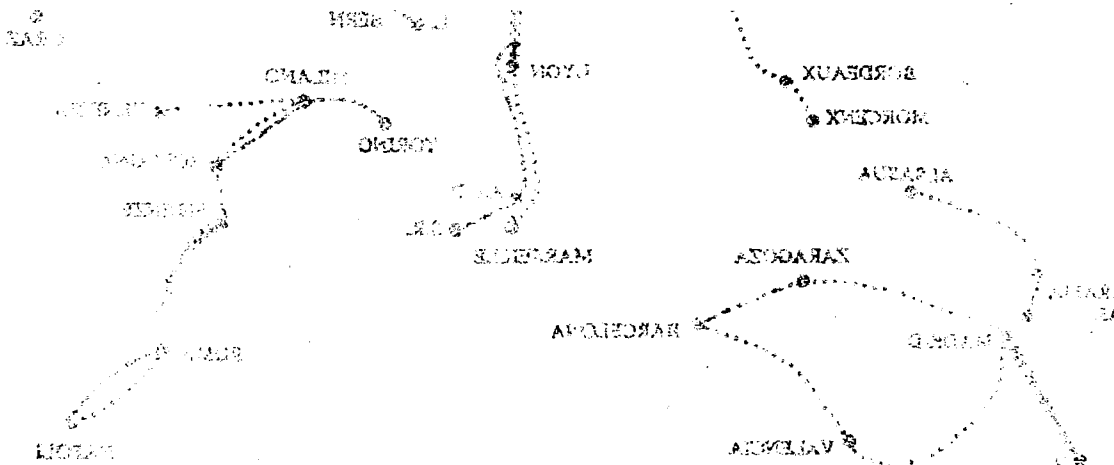
The general impression is that the railways have made major efforts to improve the technical aspect of the services offered by that they are experiencing difficulties in dealing with problems that might call for reappraisal of financial matters, a situation that is quite understandable insofar as they have limited independence vis-à-vis their governments in this sphere, despite the measures taken by a number of governments to clarify their accounts or pay off the debts.

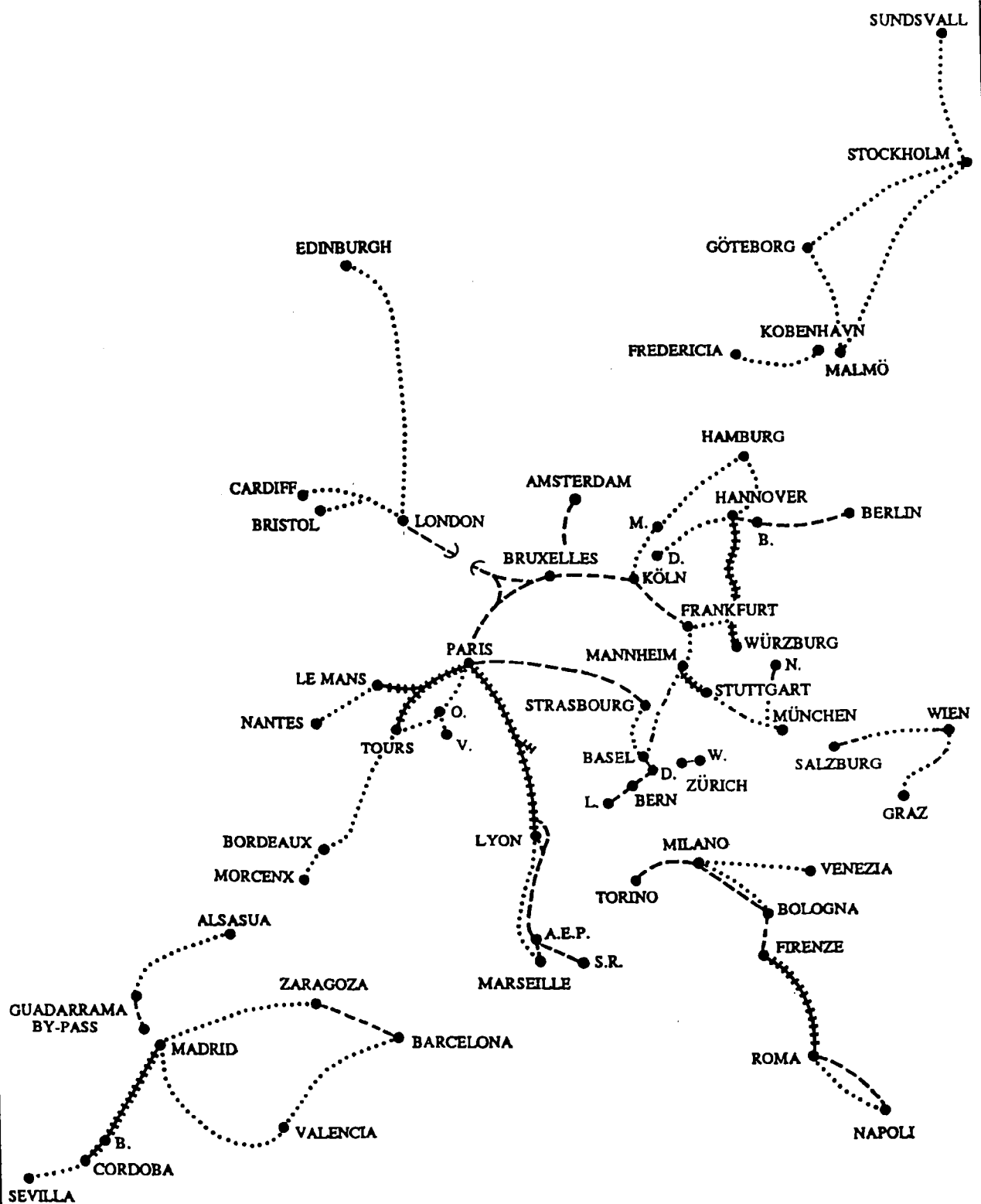
Here then lies the essential problem of the sometimes ambiguous relations between the governments and railways, some aspects of which have already been mentioned under Section III above.

HIGH-SPEED PASSENGER RAIL TRANSPORT: COMPLETED AND PROJECTED LINES

CM(88)13

This report has been drawn up at the request of the Ad Hoc Group on Railways by J.P. Baumgartner, Professeur titulaire at the Ecole Polytechnique Federale de Lausanne, Scientific Assistant to the Board of the CFF, and in compliance with the Council of Ministers' request to be informed of the situation in this connection.





- +++++ New high-speed lines in service or under construction
- New high-speed line projects
- Upgraded conventional lines in service or projected

List of abbreviations for rail networks

Austria	OeBB
Belgium	SNCB
Denmark	DSB
Federal Republic of Germany	DB
France	SNCF
German Democratic Republic	DR
Italy	FS
Netherlands	NS
Spain	RENFE
Sweden	SJ
Switzerland	SBB
United Kingdom	BR

Foreword

There are four modes of intercity passenger transport: car, coach, train and plane. In the ECMT Member countries, each passenger chooses the mode of transport that suits him in terms of the quality (speed, punctuality, comfort, convenience, safety, etc.) and the price of the service offered.

The railways plan to increase their share of the passenger transport market by improving the quality of the services that they offer. More specifically, they are endeavouring to increase the commercial speed of their intercity services.

By specialising in high-speed intercity services, the railways hope to operate a more efficient and cheaper service than other transport modes.

The objectives can be defined broadly as follows:

- a) The railways must concentrate on links between major cities or conurbations, and especially on routes on which air services exist;
- b) Commercial speeds calculated on straight line door-to-door distances (i.e. including the time spent travelling to and from terminals) must attain and if possible exceed 120 km/h;
- c) The commercial speeds offered by rail travel must therefore attain at least 150 km/h and if possible 200 km/h;
- d) There is no point in seeking to achieve train journey times (at commercial speeds of 150 to 200 km/h) of less than one hour or more than 4 hours.

Roughly speaking, to achieve a station-to-station commercial speed of about 150 km/h, passenger trains must run at a maximum speed of at least 200 km/h, while to achieve a commercial speed of about 200 km/h, they must run at a maximum speed of at least 250 km/h.

In certain favourable cases (good topographical conditions, appropriate layout, moderate density of traffic), passenger train services operating at commercial speeds attaining 200 or 220 km/h on certain sections of existing conventional lines are feasible.

However, maximum commercial speeds of 250 to 300 km/h are possible only on completely new purpose-built lines.

This paper aims to classify and summarise the information available on the following questions:

- High-speed routes (maximum speed of 200 km/h or over);
- Objectives: journey time, commercial speeds;
- Investment;
- Profitability;
- Funding;
- Time table for implementation of high-speed services;
- Problems encountered.

Some works describing completed or planned high-speed projects are listed in the bibliography (Chapter 7).

The information available on planned projects is incomplete, vague, ambiguous and even contradictory. In particular, where economic and financial data exist (investment, profitability) they are often vague or already out of date.

All the information about projected lines or lines under consideration should be regarded as provisional, since it is changing continually.

This report was completed at the end of October 1987.

1. High speeds on existing conventional lines

1.0. Introduction

It would be wrong to regard the introduction of higher speeds on existing conventional lines and the construction of new high-speed lines as alternative solutions to the same problem, since they are not interchangeable but are complementary to each other. Only the busiest routes will be equipped with high-speed lines. Existing conventional lines carrying on from the high-speed lines, and lines on other less busy routes, will only need to be upgraded.

High-speed lines are compatible with the conventional network. A high-speed train (with maximum commercial speeds of 250 km/h or over) is not limited to running on new high-speed lines. It can also operate (at lower speeds) on existing conventional track. It may be advantageous to run high-speed trains beyond the end of a new high-speed line, on existing conventional lines that have been previously upgraded to allow operation at maximum speeds of 200 or 220 km/h. Examples of such a system combining high-speed lines with conventional lines are to be found in France (the TGV Paris-Sud-Est and the TGV Atlantique).

An existing conventional line redeveloped for a maximum running speed of 200 km/h can also link two new high-speed lines. A network consisting of new high-speed lines (with a maximum running speed of 250 km/h or over) and upgraded conventional lines (with a maximum running speed of 200 to 220 km/h) is also feasible. For example, the DB (Federal Republic of Germany) is developing a network combining new high-speed lines ("Neubaustrecken" or NBS) and upgraded existing lines ("Ausbaustrecken" or ABS).

A scheme for a European network combining new high-speed lines and upgraded existing lines has also been put forward.

Maximum running speeds of 200 or 220 km/h are feasible on existing lines only when the line has a gentle profile and the terrain is very regular. Such lines require fairly long straight sections, wide radius curves and appropriate transition curves. The number and length of existing lines that meet these criteria is very limited.

Furthermore, the sections of existing lines suitable for running speeds of 200 km/h are seldom very long, and are separated by a fairly large number of special points (stations, curves, tunnels, etc.) where speeds are limited to under 200 km/h.

To raise the maximum running speed to 200 or 220 km/h on existing conventional lines, investment is first required to:

- Replace the last level crossings by bridges or under-passes;
- Increase the cant of curves;
- Install transition curves;
- Replace where necessary certain curves by wider radius curves;
- Increase where necessary the minimum distance between track centres;
- Improve track equipment;
- Modify the signalling (increasing the warning distances, installing pre-warning systems), fit signal repetition devices on traction units and, where necessary, equip cabs with continuous signalling, etc.;
- Improve the track layout and safety (locking) equipment in some stations;
- Improve where necessary the catenary and power supply; and so on.

The introduction of trains running at maximum speeds of 200 or 220 km/h on existing lines also requires the design and construction of suitable rolling stock (locomotives and carriages or rail motor sets).

An original solution is to use rolling stock with bodies that tilt in the curves, thereby allowing certain curves on existing lines to be negotiated at speeds higher than is possible with ordinary rolling stock. Other factors being equal, the use of tilting-body coaches allows running speeds to be increased only in the curves. The greatest gains in speed are made on medium-radius curves; as a rule, the gains are insignificant on small and large-radius curves. Furthermore, other factors being equal, vehicles running at high speeds in the curves place higher transverse stresses on the track.

Currently, no commercial service using tilting-body trainsets is in operation. However, they have been adopted by the Italian railways (FS) (FIAT design) (para. 1.2.5) and by the Swedish railways (SJ) (ASEA design) (para. 1.2.7).

No purpose is served by using tilting-body vehicles on new high-speed lines (with nominal speeds of 250

km/h or over) since they are not a means of time-saving. No new high-speed line will be operated on a systematic or regular basis with tilting-body rolling stock.

The introduction of trains running at maximum speeds of 200 or 220 km/h on existing conventional track widens the disparity in speed between the fastest and slowest trains. Other factors being equal, trains running at 200 or 220 km/h reduce the total capacity of the existing lines on which they operate. Also, other factors being equal once again, when the capacity of a line reaches saturation point, the movement of goods traffic is impaired.

On mixed lines used by both fast trains running at 200 or 220 km/h and relatively slow goods trains (80, 100 or 120 km/h) with a large number of axles under 20, 22.5 and 25 tonne loads, track maintenance (servicing and replacement), especially of curves, becomes more difficult and more expensive.

1.1. Services operating with maximum speeds of 200 km/h on existing conventional lines

1.1.0 *France (SNCF)*

The SNCF runs fast trains at a maximum speed of 200 km/h on numerous sections of the following lines:

- Paris-Orléans-Tours-Bordeaux ;
- (Paris-) Orléans-Vierzon ;
- Le Mans-Nantes ;
- Lyons-Marseilles.

The best commercial speeds currently attained on these lines are as follows:

- | | |
|---------------------------|----------|
| - Paris-Bordeaux: | 142 km/h |
| - Paris-Limoges (1 stop): | 140 km/h |
| - Paris-Nantes (1 stop): | 137 km/h |
| - Valence-Avignon: | 144 km/h |

1.1.1. *Federal Republic of Germany (DB)*

The DB is currently running EC and IC trains at maximum speeds of 200 km/h on numerous sections of the following lines:

- Hamburg-Hanover ;
- Hamburg-Bremen-Osnabrück-Münster ;
- Braunschweig-Hanover-Bielefeld-Dortmund ;
- Augsburg-Donauwörth ;
- Munich-Augsburg.

Among the highest commercial speeds are:

- | | |
|------------------------------|----------|
| - Hamburg-Hanover: | 142 km/h |
| - Hanover-Dortmund: | 136 km/h |
| - Hamburg-Münster (2 stops): | 134 km/h |

1.1.2 *United Kingdom (BR)*

BR runs high-speed diesel trainset (HST) at a maximum speed of 200 km/h on the following lines:

- Western Region: London-Reading-Swindon-Bristol and Cardiff;
- East Coast Main Line: London-Doncaster-York-Newcastle-Edinburgh.

Commercial speeds are as follows:

- | | |
|-------------------------------|----------|
| - London-Edinburgh (2 stops): | 136 km/h |
| - London-Bristol (3 stops): | 131 km/h |
| - London-Cardiff (1 stop): | 140 km/h |

The London to Edinburgh line (East Coast Main Line or ECML) is being electrified (para. 1.2.6).

1.2. *Projects for services operating at maximum speeds of 200 or 220 km/h on existing conventional lines*

1.2.0 *Federal Republic of Germany (DB)*

The DB has decided to raise the maximum speed of its EC and IC trains to 200 km/h on the following lines:

- Offenburg-Freiburg i.B.-Schliengen [on the Karlsruhe-Basle line between two high-speed lines (para. 4.1.0)];
- Fulda-Frankfurt.

The DB is also studying the possibility of raising the maximum commercial speed to 200 km/h on the following lines in particular:

- Stuttgart-Plochingen and Günsburg-Augsburg [Stuttgart-Munich line (para. 4.1.3)];
- Ingoldstadt-Munich (para. 4.1.2);
- Frankfurt-Mannheim;
- Graben-Neudorf-Karlsruhe;
- Münster-Cologne.

The DB is integrating upgraded existing conventional lines ("Ausbaustrecken" or ABS) and the new high-speed lines ("Neubaustrecken" or NBS) in a very dense network in order to improve commercial speeds on the lines between most major cities in the Federal Republic of Germany. The aim is to achieve commercial speeds of the order of 150 km/h on most of these lines (see also para. 3.0).

1.2.1 *Austria (OeBB)*

The OeBB is examining the possibility of raising the maximum speed to 200 km/h on the existing line from St. Pölten to Attnang-Puchheim (on the Vienna-Salzburg line between two new high-speed lines; see para. 4.3).

1.2.2 *Denmark (DSB)*

The DSB is planning to build a fixed link (tunnel and bridge) between the islands of Zealand and Fünen, which could be completed around 1993. On completion, the DSB plans to raise the maximum running speed on some sections of the Copenhagen-Fredericia line to 200 km/h.

1.2.3 *Spain (RENFE)*

The RENFE is planning to raise to 200 km/h the maximum speed of trains running on the existing lines of the Madrid-Barcelona-Valencia-Madrid triangle in order to offer journey times of 3 h 16 between Madrid and Valencia (commercial speed: 149 km/h) and 4 h 07 from Madrid to Barcelona (after completion of the current project for a new line between Zaragoza and Barcelona). The investment required has been estimated at Ptas 215 billion at 1986 prices.

The RENFE also intends to improve the service between Madrid and Andalusia by building a new line between Madrid and Brazatortas (by entirely redeveloping the line through Ciudad Real) and between Brazatortas and Cordoba (para. 4.5.0.) in order to run trains at a maximum speed of 250 km/h. The existing line between Cordoba and Seville will also be appreciably improved. It is hoped to achieve a journey time of 2 h 48 between Madrid and Seville (commercial speed: 173 km/h). The cost (including the entirely new line from Brazatortas to Alcolea de Cordova) is estimated at Ptas 75 billion at 1986 prices.

Lastly, the RENFE is considering the possibility of raising the maximum speed on northern routes from Madrid by constructing a new line to be called "Guadarrama by-pass" and designed for a maximum speed of 250 km/h (see para. 4.5.1). It is hoped to achieve a journey time of 4 h 44 between Madrid and Irun (commercial speed: 125 km/h).

1.2.4 *France (SNCF)*

When the TGV Atlantique comes into service (1989-1991) (para. 3.1), the SNCF will run the TGV Atlantique trainsets at a maximum speed of 220 km/h on some sections of the following conventional lines (beyond the TGV Atlantique line from Paris to Le Mans and Tours):

- Connerré-Le Mans-Angers-Nantes;
- Tours-Bordeaux.

Simultaneously, the speed of the TGV Atlantique trains will be increased to 200 km/h between Bordeaux and Morcenx (with 220 km/h under consideration).

Lastly, the SNCF is planning to run fast trains at a speed of 200 km/h between Strasbourg, Mulhouse and Saint-Louis (Basle).

1.2.5 *Italy (FS)*

The FS has ordered a series of 250 km/h "Pendolino" ETR 450 tilting-body rail motor sets (FIAT design), to be delivered between late 1987 and late 1989. The first ones should come into commercial service in 1988.

The FS will use ETR 450 rail motor sets on the Milan-Naples line, at a maximum speed of 200 km/h on the existing Milan-Bologna and on the existing Rome-Naples line, and at a maximum speed of 250 km/h on the new Rome-Florence line. The FS thus hopes to offer a journey time of 4 h 30 between Milan and Rome (commercial speed: 140 km/h) from 1989 or 1990.

The ETR 450 tilting-body sets on the Milan-Naples line will be replaced later by ETR 500 sets which will not have tilting bodies (para. 4.7).

The ETR 450 tilting-body sets will be transferred to other lines, in particular to the Rome-Turin (via Pisa) line and the Rome-Bari line.

In the longer term, the FS plans to improve the track layout and profile and to equip numerous sections of the following conventional lines with double track for operation at a maximum speed of 200 km/h:

- The Adriatic line between Casalbordino and Vasto;
- Orte-Falconara;
- Caserta-Foggia.

These services will complement the FS's high-speed system (para. 4.7).

1.2.6 *The United Kingdom (BR)*

In 1991 BR will introduce electric traction on the London-Edinburgh line (East Coast Main Line or ECML). Trains hauled by electric locomotives will replace the existing high-speed diesel trains (HST) (para. 1.1.2). Electric traction should make possible savings of 60 per cent on maintenance costs and 25 per cent on energy costs in comparison with high-speed diesel trains, in addition to offering greater reliability. BR intends to cut the journey time between London and Edinburgh to 4 hours in 1991 or 1992 (commercial speed: 158 km/h).

1.2.7 *Sweden (SJ)*

The SJ has ordered a series of 200 km/h tilting-body rail motorsets (ASEA design), to be delivered between 1989 (prototype) and 1993 (end of the series). The SJ will run them between Stockholm and Gothenburg with journey times of 3 h non-stop (commercial speed: 153 km/h) and of 3 h 20 with 7 stops (commercial speed: 138 km/h). A partial commercial service operating at a maximum speed of 200 km/h will start in 1990, and the full service in 1993. The service is expected to show a normal rate of return.

The SJ is considering the possibility of ordering at a later date an additional series of tilting-body trainsets to run at a maximum speed of 200 km/h on the sections of the Stockholm-Malmö, Malmö-Gothenburg and Stockholm-Sundsvall lines that are suitable for high-speed operation.

1.2.8 *Switzerland (SBB)*

The SBB has decided to raise the maximum speed of trains operating on certain sections of the existing Biel-Solothurn-Herzogenbuchsee line (39 km) from 125 km/h to 200 km/h (para. 4.9).

2. **New high-speed lines in service**

The five high-speed lines in service or under construction (Chapters 2 and 3) were built because the existing conventional lines could no longer take any further traffic. Capacity could have been increased by

building new conventional lines. But rather than continuing to build in a nineteenth century mould, the opportunity was taken to achieve nominal speeds of 250 km/h or over, i.e. to offer the quality of service that is demanded at the end of the twentieth century.

2.0. *The Paris-Sud-Est TGV (SNCF)*

The new Paris-Sud-Est TGV line links Paris and Lyons. It came into service in two stages, in 1981 and 1983. It is operated by high-speed trains ("trains à grande vitesse" or TGV) with a maximum commercial speed of 270 km/h.

Table 1 summarises the features of the new line.

Table 1. **High-speed lines in service**

		<i>Country:</i> <i>Network:</i> <i>Line from:</i> <i>To:</i>	France SNCF Paris Lyons	Italy FS Rome Florence
Total distance	km		427	260
New infrastructure	km		390 + 17 ¹	236 + 53 ¹
Minimum curve radius (exceptionally)	m m		4 000 (3 250)	3 000 ² /3 900
Maximum gradient	‰		35	8 ² /6
Nominal speed	km/h		300	250 ² /300
Maximum service speed	km/h		270	250 ² /300
Distance between track centres	m		4.2	4.0 ² /4.3
Electrification				
– Voltage	kV		25	3
– Frequency	Hz		50	=
Tunnels/total length			0	33 %
Investment (reference year)			21 × 10 ⁶ FF (1985)	· ·

1. Connections.
2. Settibagni-Chiusi.

The TGVs run on a new high-speed line between Paris and Lyons, and thereafter (at lower speeds) on conventional lines to other towns. Towns served are:

- In the North: Lille and Rouen;
- In the South: Saint-Etienne, Montpellier, Nice, Chambéry, Annecy, Geneva, Lausanne, Berne and Besançon.

The journey time between Paris and Lyons is 2 h, at a commercial speed of 213 km/h.

Other significant commercial speeds are:

- Paris-Macon: 220 km/h
- Paris-Valence: 185 km/h
- Paris-Dijon: 178 km/h
- Paris-Avignon: 175 km/h
- Paris-Marseilles: 166 km/h
- Lille-Lyons: 152 km/h.

Infrastructure investment totalled FF 8.5 billion at 1985 prices.

The line was financed by borrowing on the domestic and international capital markets.

The internal rate of return is 15 per cent.

The operating surplus i.e. the difference between revenue and operating costs + financial charges, should allow loans to be repaid by the end of 1992.

The success of the Paris-Sud-Est TGV (the only new high-speed line in Europe currently operating at high speeds) can also be gauged from the following figures:

- Between 1981 and 1986, the volume of mainline passengers on lines served by the Paris-Sud-Est TGV rose by about 20 per cent i.e. by an overall average of about 3 per cent per year. The increase was attributable almost entirely to the Paris-Sud-Est TGV; without it, the volume of the SNCF's mainline passengers would have remained flat since 1980;
- Between 1979 and 1986, the volume of first-class passengers served by the Paris-Sud-Est TGV rose steeply; over the same period, the volume of first-class passengers on the lines of the South-East network of the SNCF that were not served by the Paris-Sud-Est TGV fell markedly;
- Since the introduction of the Paris-Sud-Est service, Air Inter has lost about 50 per cent of its passengers between Paris and Lyons, while on other domestic services it increased the number of its passengers by 80 to 100 per cent between 1980 and 1986.

Lastly, the specialised nature of the new high-speed line (long-distance passenger trains) and the conventional track running more or less alongside it (regional and local passenger trains and goods trains) have provided the means of increasing freight capacity on the route, considerably raising the commercial speed of goods trains and ensuring more stringent operation.

2.1. *The Rome-Florence Direttissima* (FS)

The Rome-Florence Direttissima is already in service between Settebagni and Arezzo South, and between Rovezzano and Figline i.e. over 80 per cent of what will be the total length of the run. The section between Arezzo South and Valdarno (approximately 44 km) is still under construction (para. 3.2). Part of it (Arezzo South-Montevarchi) could come into service in 1989. The last section (Valdarno South-Valdarno North) could be opened in 1990 or 1991.

Table 1 summarises the features of the line.

The Rome-Florence Direttissima carries mixed traffic. Priority is given to fast long-distance trains, but apart from stopping trains, all other passenger and goods trains can use all of the line or sections of it. At present, the fastest locomotive-hauled trains do not exceed a maximum speed of 200 km/h.

From 1988, the introduction of ETR 450 rail motorsets (para. 1.2.5) will make it possible to offer a maximum commercial speed of 250 km/h. A few years later, the ETR 500 rail motorsets (para. 4.7) will allow maximum commercial speeds of 250 or 275 km/h to be attained on certain sections.

It is hoped to achieve a journey time between Rome and Florence of 1 h 30 at a commercial speed of 173 km/h.

The construction of the Rome-Florence Direttissima has met some problems. The irregular flow of funds has slowed down work on several occasions. Tunnel construction has encountered numerous unexpected problems on account of the geological features of the terrain.

3. New high-speed lines under construction

3.0. *The new Hanover-Würzburg and Mannheim-Stuttgart lines* (DB)

Table 2 summarises the features of these lines.

The Hannover-Würzburg line is a mixed or combined line. High-speed passenger trains will have priority, but other passenger and goods trains will also be able to use it.

The investment amounts to DM 12 billion at 1984 prices.

The Federal Government is financing the bulk of the infrastructure investment.

The first section from Würzburg to Fulda is to be opened in 1988. A second section from Göttingen to Kassel should come into service in 1990, and the complete line in 1991.

The new Mannheim-Stuttgart line is also a mixed line.

The investment amounts to DM 4 billion at 1984 prices.

The Federal Government is financing the bulk of infrastructure investment.

The first section from Mannheim to Graben-Neudorf was opened in 1987, and is being operated provisionally at a maximum speed of 200 km/h.

The complete line is to come into service in 1991.

Construction of the two new lines was delayed by opposition from ecologist groups.

From 1991 the DB plans to use ICE 401 series rail motorsets (maximum commercial speed on the new high-speed lines: 250 km/h) on the following two routes, to be served by two new lines ("Neubaustrecken") (para. 3.0) and a series of upgraded sections ("Ausbaustrecken") of the conventional network (para. 1.2.0):

- ICE No. 4 line: Hamburg-Hanover-Würzburg-Nuremburg-Munich;
- ICE No. 6 line: Hamburg-Hanover-Fulda-Frankfurt-Mannheim-Stuttgart-Munich.

Examples of the best journey times and speeds that the DB plans to offer from 1991 are:

- | | | |
|---------------------------------|--------|-----------|
| - Hamburg-Frankfurt (3 stops): | 3 h 34 | 148 km/h |
| - Hamburg-Munich (7 stops): | 5 h 57 | 137 km/h |
| - Hanover-Munich (6 stops): | 4 h 14 | 134 km/h |
| - Hanover-Frankfurt (2 stops): | 2 h 19 | 145 km/h |
| - Frankfurt-Stuttgart (1 stop): | 1 h 18 | 144 km/h |
| - Frankfurt-Munich (4 stops): | 3 h 27 | 124 km/h. |

3.1. *The TGV Atlantique (SNCF)*

The new TGV Atlantique line has a joint section from Paris to Courtalain and two branch lines, one to Conneré (Le Mans) and the other to Saint-Pierre-des-Corps (Tours).

Table 2 summarises the features of the line.

The TGV on the new TGV Atlantique line will serve a series of towns beyond the ends of the line: Brest, Quimper, Nantes, Le Croisic, Saint-Nazaire, La Rochelle, Bordeaux, Hendaye, Tarbes and Toulouse.

The maximum commercial speed on the new line will be 300 km/h.

Examples of commercial speeds on the new line are as follows:

- | | |
|-------------------|----------|
| - Paris-Le Mans: | 202 km/h |
| - Paris-Rennes: | 175 km/h |
| - Paris-Nantes: | 194 km/h |
| - Paris-Tours: | 216 km/h |
| - Paris-Bordeaux: | 192 km/h |
| - Paris-Hendaye: | 157 km/h |

Examples of projected journey times are: 2 hours from Paris to Rennes or Nantes, and 3 hours from Paris to Bordeaux.

The investment amounts to FF 7.75 billion at 1986 prices.

The internal rate of return is 12 per cent. Loans should be paid off ten years after the line comes into service.

The French Government has financed 30 per cent of the infrastructure investment. The SNCF is borrowing the remaining 70 per cent on the money market.

The rail motor sets will be delivered from 1988 onwards.

The western branch (Paris-Le Mans) will be partially opened in October 1989, and the south-western branch (Paris-Tours) in October 1990. The full high-speed service with the lines beyond it will be inaugurated in October 1991.

3.2. *High-speed lines under construction in Italy*

The FS is building the following high-speed lines (nominal speed: 300 km/h):

- Arezzo - Valdarno [the last section of the Rome-Florence Direttissima (see paragraph 2.1)];
- Milan-Rogoredo-Melegnano [first section of the new Milan-Bologna line (see paragraph 4.7)].

The Italian Government is financing the project.

Table 2. High-speed lines under construction

		Germany DB	Germany DB	France SNCF "TGV Atlantique" Paris Le Mans and Tours
	Country: Network:			
	Line from: to:	Mannheim Stuttgart	Hanover Würzburg	
Total distance	km	105	327	
New infrastructure	km	99	327	285+12 ¹
Minimum curve radius	m	7 000	7 000	6 000
(exceptionally)	m	(5 100)	(5 100)	(4 000) (3 250) ²
Maximum gradient	‰	12.5	12.5	15 ³
Nominal speed	km/h	250	250	300
Maximum service speed	km/h	250	250	300
Distance between track centres	m	4.7	4.7	4.2
Electrification:				
- voltage	kV	15	15	25 ⁴
- frequency	Hz	16 2/3	16 2/3	50
Tunnels/total length		30%	36%	3.3%
Investment/km (reference year)		38 × 10 ⁶ DM (1983)	35 × 10 ⁶ DM (1983)	31 × 10 ⁶ FF (1985)

1. Connections.
2. Tours loop line.
3. Exceptionally: 20 and 25‰.
4. 1.5 kV DC on the Tours loop line.

4. Projects for high-speed lines

4.0. The PBKA (Paris, Brussels, Cologne and Amsterdam) project and the link with the Channel Tunnel (SNCF, SNCB, DB, NS, BR)

The PBKA project is the first international high-speed project. It consists of a network of high-speed lines linking Paris, Brussels, Cologne and Amsterdam. The future high-speed link with the continental end of the Tunnel and London connects up with the PBKA network and, since these links unquestionably form a whole, they cannot be considered separately.

The total length of the PBKA project would be between 530 and 590 kms, depending on the variant, plus the link with the Channel Tunnel (about 80 kms on a preliminary estimate).

A maximum commercial speed of 300 km/h is planned on the sections of new line. In the case of the most favourable variants, planned journey times are as follows:

- Paris-Brussels: 1 h 20 (commercial speed: 247 km/h)
- Paris-Cologne: 2 h 30 (commercial speed: 196 km/h)
- Paris-Amsterdam: 3 h
- Paris-London: 2 h 50
- Brussels-London: 2 h 30

The investment required for the PBKA project is between 3.2 and 3.3 billion ECUs at 1984 prices (in 1984 the ECU was worth FF 6.90, BF 45.5, DM 2.24 and GLD 2.53). The additional link between the PBKA project and the Channel Tunnel will call for further investment of some 650 million ECUs.

The overall average internal rate of return¹ for the PBKA project and the additional link with the Channel Tunnel (i.e. the continental project) will be about 6 per cent. It is not the same for each of the participating railways and should amount to 9.1 per cent for SNCF, 2.2 per cent for SNCB, 6.3 per cent for DB

1. This rate of return is determined on the basis of differential accounting and is therefore obtained by comparing the differences in costs and revenues in a "high-speed" situation with a reference situation (project not carried out). It therefore incorporates all costs and revenues related to the "high-speed" activity (performed by high-speed trains) and those relating to the impact of this activity on conventional trains.

and 1.5 per cent for NS. In the particular case of the SNCB, the return on the section between the French frontier and Brussels is higher than that on the sections between Brussels, on the one hand, and the Dutch and German frontiers on the other.

It has been estimated that the PBKA project will take between 8 and 12 years to complete.

The project has encountered numerous difficulties, primarily owing to the disparities between the internal rates of return for the railways concerned and, accordingly, for the governments, which makes it difficult to reach joint decisions.

More particularly, as regards the PBKA link with the Channel Tunnel and London, the difficulties are for example primarily attributable to:

- The fact that there is no new high-speed line between the UK end of the tunnel and London;
- The BR vehicle gauge (which prevents continental rolling stock from operating in the UK);
- The electrification with 750 V DC third-rail power supply of the line between the UK end of the tunnel and London;
- The density of commuter traffic on the lines between London and the UK end of the Channel Tunnel.

It seems highly improbable that the entire PBKA project can enter into service before 1996. As the Channel Tunnel is scheduled to open in Spring 1993, one would need to aim at bringing into service a substantial part of the PBKA project at the same time, more particularly the network of high-speed lines from Paris (Gonesse) to Lille, from Lille to the continental end of the Channel Tunnel (Coquelles) and from Lille to Brussels (Lembeek). The SNCF has announced that it will simultaneously link up the French high-speed lines in a unified network, i.e. by building a new high-speed line that will skirt Paris to the south and east and link up Massy (on the TGV Atlantique line), the TGV Sud-Est, Roissy airport and the TGV Nord. Planned journey times for some French domestic runs are as follows:

- Paris-Lille: 1 h 00
- Roissy-Lille: 0 h 53
- Roissy-Le Mans: 1 h 30
- Roissy-Lyon: 1 h 56
- Lille-Lyon: 2 h 53

The infrastructure investment for the link between Paris, the continental end of the Channel Tunnel and Brussels is estimated at 1.85 billion ECUs at 1984 prices.

A Franco-Belgian-Anglo industrial consortium set up specifically for the purpose will construct the cross-channel high-speed trains (750 seats) to the UK gauge. It will also be necessary to purchase high-speed trains (400 seats) for the continental links.

It is planned to finance the investment in general by borrowing on the money market.

4.1. *Federal Republic of Germany (DB)*

4.1.0 *The Karlsruhe-Basle link*

In order to improve the Karlsruhe-Basle link, the DB has decided to:

- Build a new high-speed line (maximum commercial speed: 250 km/h) from Rastatt to Offenburg;
- Redevelop the existing conventional line for a maximum speed of 200 km/h between Offenburg and Schliengen (paragraph 1.2.0);
- Build a new line (maximum speed: 250 km/h) between Schliengen and Eimeldingen.

When the project is completed, a journey time of 2 h 15 between Frankfurt (M) and Basle DB should be possible (commercial speed: approximately 150 km/h).

The investment required is estimated at DM 2.3 billion at 1987 prices.

The new improved link between Karlsruhe and Basle is scheduled to come into service in 1995. At that date, the ICE 401 series high-speed rail motor sets should be in service, in particular between Hamburg, Frankfurt and Basle.

4.1.1 *The new Cologne-Rhein/Main line*

This new line would be approximately 167 kms long and would link Cologne and Bonn with the Rhein/Main region (with three spurs to Wiesbaden, Gross Gerau and Frankfurt-Flughafen).

The maximum commercial speed would be 250 km/h or 300 km/h.

The journey time from Cologne to Frankfurt would be about 1 hour.

The investment required has been estimated at DM 5.5 billion at 1983 prices.

4.1.2 *The new Nuremberg-Ingoldstadt line*

This line would be about 90 kms long and would be extended from Ingoldstadt to München by an upgraded existing line (paragraph 1.2.0).

4.1.3 *The new Plochingen-Günzburg line*

This line would by-pass the conventional main line from Stuttgart to München over a distance of about 78 kms. It would be supplemented by two upgraded sections of the existing line from Stuttgart to Plochingen and from Günzburg to Augsburg (paragraph 1.2.0).

4.2. *Federal Republic of Germany and the German Democratic Republic: the new high-speed line from Hanover to Berlin (DB, DR)*

This is an unofficial project. Roughly a third of the line would be in the Federal Republic of Germany and the other two-thirds in the German Democratic Republic.

Two routes are conceivable:

- Hanover-Braunschweig-Magdeburg-Berlin;
- Hanover-Oebisfelde-Stendal-Berlin.

The journey time from Hanover to Berlin would be cut to 1 h 46 or 1 h 58, at a commercial speed of 200 km/h.

The investment required has been estimated at DM 3 billion at 1986 prices.

4.3. *Austria (OeBB)*

4.3.0 *The Vienna-Salzburg link*

The OeBB is planning improvements to this link which will include:

- The construction of a new high-speed line from Vienna to St. Pölten;
- The upgrading of the existing line from St. Pölten to Attnang-Puchheim (para. 1.2.1);
- The construction of a new high-speed line from Attnang-Puchheim to Salzburg.

The nominal speed on the new lines would be 200 km/h.

It is hoped to achieve a journey time of 2 h between Vienna and Salzburg at a commercial speed of about 160 km/h.

The overall profitability of the project seems assured.

It would be financed partly by the State and partly by borrowing on the money market.

The link will come into service by stages.

4.3.1 *The Vienna-Graz link*

The OeBB is planning to construct a new high-speed line including a tunnel under the Semmering (maximum speed: 200 km/h; commercial speed: approximately 160 km/h). This new high-speed section on the Vienna-Graz link will reduce the journey time between the two towns by half an hour. It could come into service in 1992.

4.4. *Belgium (SNCB)*

As part of the PBKA project (para. 4.0), the SNCB will construct the Belgian section of the new high-speed line between Paris and Brussels and the sections beyond to the Netherlands' frontier, on the one hand, and the German frontier, on the other, using partly new and partly existing lines (see para. 4.0.).

4.5. *Spain (RENFE)*

4.5.1 *The new line from Brazatortas to Alcolea de Cordoba*

In order to improve the service between Madrid and Andalusia, the RENFE plans to implement the following projects:

- The existing Madrid-Ciudad Real-Brazatortas link is to be converted into a new line (for a maximum service speed of 250 km/h) (para. 1.2.3);
- Construction of a new line from Brazatortas to Cordoba (106 km) (maximum speed: 250 km/h);
- Upgrading of the existing Cordoba-Seville line (maximum speed: 200 km/h).

The new link will be 92 km shorter than the conventional Madrid-Aranjuez-Despenaperros-Cordoba line. It is hoped to achieve a journey time of 2 h 48 between Madrid and Seville.

The investment required for the complete project is estimated at Ptas 75 billion (at 1986 prices), of which Ptas 38 billion for the new line from Brazatortas to Alcolea de Cordoba.

The new line from Brazatortas to Alcolea de Cordoba will take 4 years to build.

4.5.1 *The new Sierra de Guadarrama line ("Guadarrama by-pass")*

As mentioned earlier (para. 1.2.3), to improve the link between Madrid, the North of Spain and France, the RENFE is considering the construction of a new line through the Sierra de Guadarrama.

The maximum commercial speed would be 250 km/h.

The commercial speed between Madrid and Valladolid should attain 177 km/h.

The investment required totals Ptas 45.4 billion (at 1986 prices).

4.6. *France (SNCF)*

4.6.0 *The TGV Nord*

Under the PBKA project (para. 4.0), the SNCF will construct the new high-speed line from Paris to Lille and from Lille to the continental end of the Channel Tunnel. Simultaneously, it will link up the TGV lines that converge in Paris. Both projects are described in para. 4.0.

4.6.1 *The Lyons loop and the extension of the TGV Paris-Sud-Est to Marseilles*

The new approximately 122 km long line will branch away from the TGV Paris-Sud-Est line at P.K. 375 (Civrieux) i.e. north of Lyons. It will serve Satolas airport to the east of Lyons. It will provide a direct link with the existing Lyons-Chambéry line and will rejoin the existing Lyons-Marseilles line at Saint-Marcel-les-Valence north of Valence.

The nominal speed will be 300 km/h. The Lyons loop will make possible a journey time of 2 h 25 between Paris and Valence (at a commercial speed of 220 km/h) and of 4 h 05 between Paris and Marseilles.

The investment will be approximately FF 4.2 billion at 1986 prices.

The internal rate of return will be about 10 per cent.

Construction will take 3 1/2 years.

Subsequently, the SNCF plans to extend the TGV Paris-Sud-Est from Valence to Marseilles (204 km). The nominal speed would be 300 km/h. The journey time from Paris to Marseilles could be cut to about 3 h 30. The internal rate of return would be about 11 per cent.

Later on, a branch line (nominal speed: 300 km/h) could link Aix-en-Provence to Saint-Raphaël (94 km). The internal rate of return for this line has been estimated at about 10 per cent.

4.6.2 *The TGV Est*

The new 430-450 km high-speed line would link Paris and Strasbourg and would serve the east of France. If necessary, the TGV Est could comprise a branch line to Saarbrücken [and Frankfurt (M)]. The TGV Est would link Paris to Strasbourg at a commercial speed of approximately 240 km/h.

The investment required would be FF 10 to 13 billion at 1985 prices.

The internal rate of return would be about 4 per cent.

4.6.3 *The Le Mans loop on the TGV Atlantique*

There are plans to skirt Le Mans in the direction of Rennes, and thereby to improve the service to Brittany, by extending the western branch of the TGV Atlantique by 28 km between Connerré and La Milesse.

4.7. *Italy (FS): the Italian high-speed programme*

The Italian programme comprises:

- A North-South or "vertical" axis from Milan to Naples;
- A West-East or "horizontal" axis from Turin to Venice.

The Milan-Naples axis consists of:

- A new high-speed line from Milan to Bologna (202 km);
- A new line from Bologna to Florence (approximately 90 km);
- The new line from Florence to Rome (para. 2.1);
- A new high-speed line from Rome to Naples (222 km) and Battipaglia.

The Turin-Venise axis could comprise a new high-speed line from Turin to Milan and the upgraded conventional line from Milan to Venice. A study has not yet been made of the Turin-Venise axis.

The nominal speed on the Milan-Naples axis would be 300 km/h between Milan and Bologna and between Rome and Naples, and the maximum commercial speed would be 270 km/h. On the new line from Bologna to Florence and on the southern section of the new Rome-Florence line a maximum commercial speed of 250 km/h is planned.

The planned journey times and commercial speeds are as follows:

- Milan-Bologna:	1 h 05	186 km/h
- Bologna-Florence:	0 h 35	154 km/h
- Florence-Rome:	1 h 25	184 km/h
- Milan-Rome:	3 h 15	170 km/h
- Rome-Naples:	1 h 10	190 km/h
- Milan-Naples:	4 h 30	172 km/h

The investment required for the Milan-Naples axis (including rolling stock, modifications to the main stations involved, additional workshops and depots) amounts to LIT 12 500 billion at 1985 prices.

It is planned to operate the Milan-Naples axis with conventional (non-tilting body) ETR 500 rail motorsets.

Funds are earmarked for the construction of the new Rome-Naples line in the 1987-1991 Five-Year Plan.

It is estimated that the new Rome-Naples line will take 6 1/2 years to build once all the authorisations have been obtained.

A prototype trainset (ETR X 500) could be available in 1988. An initial series (ETR Y 500) could be built for 1989-1991, and an experimental commercial service could start in 1990.

When these new high-speed lines have come into service, the FS plans to make a study of two other new high-speed lines, namely:

- Battipaglia-Calabria-Sicily
- Rome-Puglia.

4.8. *Netherlands (NS)*

As part of the PBKA project, consideration is being given to the construction of new lines between Amsterdam (Schipol) and Rotterdam and between Rotterdam and the Belgian frontier.

4.9. *Switzerland (SBB)*

The SBB has decided to build 4 new lines for operation at a maximum speed of 200 km/h:

- (Bern-) Mattstetten-Rothrist (-Olten) (43 km);
- (Basle-) MuttENZ-Olten (28 km);

- Zurich Flughafen-Winterthur (10 km);
- (Lausanne-)Vauderens-Villars sur Glâne (-Fribourg) (27 km).

Consideration is currently being given to the construction of a new route through the Swiss Alps which would provide for maximum running speeds of about 200 km/h.

4.10. *France and the United Kingdom (SNCF, BR):*

Channel Tunnel passenger trains

The layout of the Tunnel and the track equipment might enable the TGVs to travel at a maximum speed of 200 km/h, but the networks are not planning on a speed over 160 km/h in an initial phase.

5. Summary

The financial situation of the European railways is unsound, so the aim is to improve it by increasing their market share. One way of doing this is to increase intercity commercial speeds by improving certain conventional lines and/or by building new high-speed lines.

5.0. *A maximum running speed of 200 km/h on existing conventional lines*

Three rail networks run trains at a maximum commercial speed of 200 km/h on certain sections of some existing conventional main lines: the SNCF, the DB and BR.

The SNCF and the DB intend to upgrade some other existing conventional main lines for operation at a maximum commercial speed of 200 to 220 km/h.

Other networks also intend to run trains at a maximum speed of 200 km/h on some sections of existing conventional lines.

5.1. *New high-speed lines in service*

Two networks operate new high-speed lines (nominal speed: 250 to 300 km/h): the SNCF (TGV Paris-Sud-Est) and the FS (Rome-Florence). However, the Rome-Florence line is not yet in full service; at present, the FS is running only conventional trains on it at a maximum speed of 200 km/h. High-speed operation will start in 1988.

5.2. *New high-speed lines under construction*

Three new high-speed lines are under construction and will come into service between 1989 and 1991:

- Hanover-Würzburg (DB);
- Mannheim-Stuttgart (DB);
- The TGV Atlantique (SNCF).

By 1991, the total length of the five new high-speed lines in service (paras. 5.1 and 5.2) will be approximately 1 340 km.

5.3. *New high-speed projects*

At the European level, the most important project is the PBKA international network (Paris, Brussels, Cologne and Amsterdam) and the link with the continental end of the Channel Tunnel.

Priority will be given to completing the link between Paris, the Channel Tunnel and Brussels by 1993.

Several continental networks are studying projects for new national high-speed lines.

5.4. *Comments*

The five new high-speed lines that will be in service by 1991 are all on routes that carry exceptionally heavy passenger and goods traffic. All five have been, or are being built, because the existing lines have reached the limits of their capacity. However, they will not be linked to one another.

Apart from the international PBKA project, all the new high-speed lines in service, under construction or consideration, are national or domestic lines that do not cross any national borders.

At present there are no plans for a transalpine or transpyrenean high-speed line.

Many high-speed projects are only at the draft or outline stage.

Only a few high-speed projects have been the subject of economic and financial studies.

The average investment cost per kilometer of infrastructure for the five new high-speed lines in service and under construction varies (at 1987 prices, on a preliminary estimate and as an order of magnitude) between DM 7.5 and DM 40 million, or FF 25 to 130 million, depending primarily on the population density of the regions through which the lines run, the topography, the maximum gradient adopted, the proportion of tunnel sections to total line length, the number of links with the conventional network, etc.

A dual-current 485-seat TGV Atlantique trainset costs approximately FF 75 million, while a single-current 636-660-seat DB ICE 401 series trainset costs between DM 33 and 48 million (both at 1986 prices).

Two of the five new high-speed lines in service or under construction were financed by borrowing on the money market (entirely in the case of the TGV Paris-Sud-Est, and up to some 70 per cent in the case of the TGV Atlantique).

The other three new lines (Rome-Florence Direttissima, Hanover-Würzburg and Mannheim-Stuttgart) were financed from the general government budget.

6. Conclusions

6.0. *Policy prospects*

One of the aims of present-day transport policy is to meet the demand for transport by making the most of the technical and economic advantages specific to each transport mode, while respecting budget constraints as far as possible.

The future development of railways will therefore differ from that of the past, with an increased emphasis on specialisation. They will be obliged to concentrate their efforts and limited resources on the services that they can operate effectively and economically.

Intercity passenger transport is one form of transport which the railways seem particularly well-equipped to provide. But they will show a satisfactory return only on the busiest routes on which they can offer their customers a much faster service than alternative modes of transport.

The construction of profitable high-speed railway lines will ease the burden on government budgets and, by the same token, on taxpayers as a whole.

Another secondary argument that may carry weight with governments is the fact that passenger transport by the new high-speed railway lines consumes less primary energy per passenger-kilometre than alternative road and air transport, and the fact that electrified railway lines can use all types of primary energy, whereas road and air transport are limited to oil. It should also be borne in mind that the railways' biggest items of expenditure are wages and social contributions, and investment (or related depreciation and interest charges), and not fuel.

6.1. *Project implementation*

Whether or not new high-speed projects are implemented will depend on whether the financing is available. Whatever form the financing takes, it will be possible only if the project offers a satisfactory internal rate of return. The internal rate of return is determined primarily by the volume of traffic that the line has to carry. Only projects that are likely to carry very heavy passenger traffic can show a satisfactory rate of return. But there are not many existing or potential high-density routes. From the economic and financial standpoint, the number of feasible new high-speed lines will therefore be limited. However, the satisfaction of requirements that relate to specific transport policy aims (e.g. transit policy) may also have a considerable influence on the method of financing.

6.2. *The particular case of new international high-speed lines*

There is a large and growing volume of remunerative international passenger traffic that allows airlines in particular to operate, expand and even sometimes to prosper.

Accordingly, with due regard to the question of free movement of persons between EEC Member States, it is essential that, alongside the air and road systems, a high-quality rail network should be developed throughout Europe.

However, apart from the PBKA (Paris, Brussels, Cologne and Amsterdam) Project, the European railways' current projects are only for national or domestic high-speed lines.

The difficulties that the PBKA Project is encountering, and the absence of any other international projects for new high-speed lines, can be explained primarily by the way in which the European railways are organised.

The rail networks in each European country are nationalised public services. Each network operates all the railway lines within its national boundaries, and is accountable solely to the national supervisory authorities. Each government supervises its own network and no other.

International rail transport is operated in accordance with the legal, technical, tariff and financial agreements concluded at government and non-government level. These agreements determine how the revenue and expenditure from, and the responsibility for, international rail transport are shared. Each national network is responsible only for its own share of international transport, and is concerned solely with increasing the revenue from it. One may well ask where the overall responsibility to the customer for the entire international rail network lies.

The financial situation of the railways being what it is, governments (and not the rail networks themselves) take the decisions concerning railway investment programmes. Each government takes account only of internal and domestic conditions and circumstances. No government can intervene beyond its national borders. The pressure groups that participate in the preparation of governmental decisions are, as a rule, not concerned with the international dimension of rail transport.

The "globalisation" of industrial, commercial and financial activities is a striking feature of today's world. In contrast, the national basis of the railways is still as marked as that of armies, and one may well ask if this is not an anachronism.

To build new high-speed railway lines across national borders, the whole tradition of national railways will undoubtedly need to be re-appraised.

7. Bibliography

7.0. General aspects

SENAC G.: Le relèvement des vitesses sur les lignes existantes - Revue générale des chemins de fer, Paris, October 1983, p. 617.

Les aspects socio-économiques des trains à grande vitesse - International seminar, 5th-8th November 1984 - La documentation française, Paris, 1985 - 2 Vol., 240 and 702 pp.

BAUMGARTNER J.P.: Les lignes européennes de chemin de fer à grande vitesse - International seminar, Paris, 5th-8th November 1984 - La documentation française, Paris, 1985, Tome II, p. 622 - Revue générale des chemins de fer, Paris, February 1985, p. 73.

Infrastructure parameters for main international railway lines: new lines - Annex II to the European Agreement on Main International Railway lines (AGC), United Nations Economic Commission for Europe, ECE/TRANS/63, 31st May 1985.

Bodytilt Coaches - Office for Research and Experiments (ORE) of the Union Internationale des Chemins de fer, Utrecht, Report S 1037/RP 1, September 1985.

BOULEY J.: High Speeds - European Dimension and Future Prospects of the Railways, ECMT Seminar, Paris, 15th-17th January 1986.

Europeans plan their 21st century network - Railway Gazette International, London, No. 2, February 1986, p. 75.

KRACKE R., ENGELMANN N., ABERLE G., SCHLETH J.P.: Spurgeführter Schnellverkehr in Westeuropa - Eisenbahntechnische Rundschau (ETR), Darmstadt, No. 1-2, January-February 1986, p. 29.

BOULEY J.: TES: un réseau européen de chemins de fer à grande vitesse - Revue générale de chemins de fer, Paris, No. 4, April 1986, p. 203.

- High-Speed Traffic on the Railway Network of Europe - Report of the International Seminar held in Hanover, 12th-14th April 1986 - ECMT, Paris, 1986 - 1 vol., 129 pp.
- BAUMGARTNER J.P.: National Infrastructure Projects as Elements of a European High-Speed Rail Network, in High-Speed Traffic on the Railway Network of Europe (Hanover Seminar, April 1986) - ECMT, Paris, 1986, p. 23.
- Towards a European High-Speed Rail Network - Commission of the European Communities, Brussels - Document COM(86)341 Final, 30th June 1986.
- HEINISCH R., WALRAVE M.: Réseau européen de transport à grande vitesse - Progress Report, Internal Document of the Group of the Twelve European Community Railways, Brussels, 2nd December 1986.
- EISENMANN J.: Auswirkung eines Mischverkehrs auf den Eisenbahnoberbau, ETR, Darmstadt, No. 1-2, January-February 1987, p. 13.
- STARITA G.: Report drawn up on behalf of the Committee on Transport on A European High-Speed Rail Network - European Parliament, Document PE 109.323/final A2-79/87, 27th May 1987.
- Schnellverkehr in Europa - ETR, Darmstadt, No. 5, May 1987, p. 295.
- 7.1. *France, Belgium, Federal Republic of Germany, the Netherlands, SNCF, SNCB, DB, NS; TGV Paris-Nord; Paris-Brussels-Cologne-Amsterdam (PBKA); Paris-Channel Tunnel, etc.*
- Rapport final du groupe tripartite France-Belgique-République fédérale d'Allemagne relatif à la liaison rapide Paris-Bruxelles-Cologne - Brussels, July 1984.
- FORTON P.: Etudes relatives au corridor Paris-Bruxelles-Cologne - Les aspects socio-économiques des trains à grande vitesse - La documentation française, Paris, 1985, tome II, p. 101. id.: Revue générale des chemins de fer, Paris, February 1985, p. 51.
- FRYBOURG A.: Paris-Bruxelles-Cologne-Amsterdam: aspects juridiques et financiers du projet - Transports, Paris, No. 310, December 1985, p. 694.
- Note relative à l'état d'avancement de la deuxième phase des études de la liaison rapide Paris-Bruxelles-Cologne/Amsterdam - Brussels, January 1986.
- Liaison rapide Paris-Bruxelles-Cologne/Amsterdam: report of the international working group, Paris, Brussels, December 1986.
- STOCKMANN Dr., WANDEMANN V.: Betriebswirtschaftliche und volkswirtschaftliche Bewertung des Schnellbahnprojektes Paris-Brüssel-Köln/Amsterdam - Die Bundesbahn, Darmstadt, No. 3, March 1987, p. 225.
- HEINISCH R.: Das Projekt einer Schnellbahnverbindung Paris-Brüssel-Köln/Amsterdam - Die Bundesbahn, Darmstadt, No. 3, March 1987, p. 217.
- LUEBKE D.: Schnellbahnverbindung Paris-Brüssel-Köln/Amsterdam - ETR, Darmstadt, No. 5, May 1987, p. 316.
- GAND H.: Evaluation de la rentabilité économique de la relation par train rapide Paris-Bruxelles-Cologne/Amsterdam - Rail International, Brussels, No. 7, July 1987, p. 21.
- Le TGV Nord - La Vie du Rail, Paris, No. 2115, 22nd October 1987, p. 4; No. 2117, 5th November 1987, p. 3.
- 7.2. *Federal Republic of Germany - DB*
- DELVENDAHL H.: Planung und Ausführung von Neubaustrecken - Die Bundesbahn, Darmstadt, No. 9, September 1973, p. 575.
- WOLF W.: Die technische Planung der Neubaustrecken der Deutschen Bundesbahn - Eisenbahntechnische Rundschau (ETR), Darmstadt, No. 1-2, January-February 1974, p. 14.
- BUBEL H.: Die Neubaustrecken der DB - Die Bundesbahn, Darmstadt, No. 7, July 1976, p. 439.
- BUBEL H.: Die technische Gestaltung der Neubaustrecken der Deutschen Bundesbahn - Der Eisenbahningenieur, Frankfurt (Main), Vol. 1, No. 1, January 1977, p. 11.
- WEBER H., ENGELS W., MAAK H.: Die Neubaustrecke Hannover-Würzburg - ETR, Darmstadt, No. 10, October 1979, p. 725.

- GLATZEL L. : Infrastrukturparameter der Neubaustrecken - Die Bundesbahn, Darmstadt, No. 11, November 1979, p. 785.
- LINKERHAEGNER W., BLIND W. : Die Realisierung der Neubaustrecken der Deutschen Bundesbahn - Eisenbahntechnische Rundschau (ETR), Darmstadt, No. 7-8, July-August 1984, p. 575.
- ROCHBRUCK H. : Perspektiven des Schnellverkehrs, Magnet- und/oder Rad/Schiene-Technik - Eisenbahntechnische Rundschau (ETR), Darmstadt, No. 3, March 1985, p. 209.
- GRUEBMEIER J., HEINISCH R. : Massnahmen der DB im Bundesverkehrswegeplan 85 - Die Bundesbahn, Darmstadt, No. 10, October 1985, p. 827.
- GRUEBMEIER J., WEGEL H. : Bundesverkehrswegeplan 1985 : Planungen der Deutschen Bundesbahn zum Streckenausbau unter besonderer Berücksichtigung fahrzeitverkürzender Massnahmen - Eisenbahntechnische Rundschau (ETR), Darmstadt, No. 1-2, January-February 1986, p. 45.
- Schnellbahnen und ihre sozio-ökonomische Beurteilung - Beiträge zur Tagung des "Verkehrswissenschaftlichen Arbeitskreises" am 13. und 14. März 1986 in Woerden - Deutsche Bundesbahn, Frankfurt (M), November 1986.
- GRUEBMEIER J., KRITTIAN E. : Ausbau- /Neubaustrecken der Deutschen Bundesbahn - ETR, Darmstadt, No. 5, May 1987, p. 307.
- RAHN T. : Intercity-Express: Stand der Entwicklung - Die Bundesbahn, Darmstadt, No. 5, May 1987, p. 409.
- GRUEBMEIER J. : Stand und weitere Planungen für die Ausbaustrecken der Deutschen Bundesbahn - Der Eisenbahningenieur, Frankfurt (M), No. 7, July 1987, p. 335.
- Drei Jahre Projekt HVG : eine Zwischenbilanz - ETR, Darmstadt, No. 7-8, July-August 1987, p. 439, 441, 447, 453, 459, 465, 475.
- MUENCHSCHWANDER P. : Projekt HGV - Die Bundesbahn, Darmstadt, No. 10, October 1987, p. 853.
- KRITTIAN E. : Die Ausbau- und Neubaustrecke Karlsruhe-Basel - Die Bundesbahn, Darmstadt, No. 10, October 1987, p. 911.
- WATZLAW W. : Ausbau- /Neubaustrecke Plochingen-Günzburg - Die Bundesbahn, Darmstadt, No. 10, October 1987, p. 919.

7.3. *Federal Republic of Germany - DB German Democratic Republic - DR*

- Eisenbahngutachten über Schnellbahn Berlin-Hannover - ZEV - Glasers Annalen, Berlin, No. 12, December 1986, p. 422; Die Bundesbahn, Darmstadt, No. 1, January 1987, p. 67.

7.4 *Austria - OeBB*

- JAWORSKI R. : Leitgedanken und Grundsätze zur Entwicklung von Hochleistungsbahnen in Oesterreich - Eisenbahntechnik, Wien, No. 3, 1986, p. 5; No. 4, 1986, p. 4.
- HAINITZ H. : Ueberlegungen über ein Hochleistungsnetz für Oesterreich - ETR, Darmstadt, No. 5, May 1987, p. 299.

7.5. *Espagne - RENFE*

- Madrid-Cordoba en dos horas y cuatro minutos - Via libre, Madrid, No. 272, September 1986, p. 23.
Presentado el avance del plan de transporte ferroviario (PTF) - Via libre, Madrid, No. 274, November 1986, p. 6.

7.6. *France - SNCF*

7.6.0 *TGV Paris-Sud-Est (Paris-Lyon)*

- Les très grandes vitesses ferroviaires sur infrastructures nouvelles - Revue générale des chemins de fer, Paris, January 1970, p. 1.
- La ligne nouvelle Paris-Sud-Est - Revue générale des chemins de fer, Paris, November 1976, p. 643; December 1976, p. 751.

CAIRE D.: Une ligne nouvelle: le TGV Paris-Lyon - Chemins de fer, Paris, No. 344, September-October 1980, p. 202.

La traction électrique à grande vitesse - Revue générale de l'électricité, Paris, No. 2, February 1981, p. 79.

Le TGV - Revue générale des chemins de fer, Paris, September 1981, p. 453.

TGV - PCM, Paris, October 1981, p. 17.

METZTLER J.M.: L'optimisation des caractéristiques techniques du système TGV - Rail International, Brussels, No. 7, July 1982, p. 117.

Le TGV: bilan et perspectives - Revue générale des chemins de fer, Paris, September 1983, p. 495.

BERLIOZ C., LEBOEUF M.: Bilan économique du TGV Sud-Est - Revue générale des chemins de fer, Paris, September 1983, p. 505.

BERLIOZ C.: Résultats de l'exploitation du TGV Paris-Sud-Est - Rail International, Brussels, No. 1, January 1985, p. 83.

LEBOEUF M.: L'évaluation économique et financière des grands projets d'infrastructure ferroviaire: l'exemple du TGV Sud-Est - Revue générale des chemins de fer, Paris, February 1985, p. 63; Rail International, Brussels, No. 4, April 1986, p. 9.

BERLIOZ C., WILMART C., ARDUIN J.P.: Réponse de la demande à une amélioration de l'offre: l'exemple du TGV Paris-Sud-Est - Revue générale des chemins de fer, Paris, February 1985, p. 55.

ROUMEGUERE P.: Les installations fixes du TGV deux ans après leur mise en service - Rail International, Brussels, No. 8/9, August-September 1985, p. 5.

WALRAVE M.: Le TGV Paris-Sud-Est: mise en oeuvre du projet et premiers résultats - Transports, Paris, No. 310, December 1985, p. 629.

BERLIOZ C., LEBOEUF M.: Les résultats du TGV Paris-Sud-Est: bilan a posteriori du TGV Sud-Est - Revue générale des chemins de fer, Paris, December 1986, p. 759.

L'atout TGV - La Vie du Rail, Paris, No. 2109, 10th September 1987, p. 13.

7.6.1. *TGV Atlantique*

TGV Atlantique - La Vie du Rail, Paris, No. 1912, 6th October 1983, p. 10; No. 1984, 7th March 1985, p. 1.

CHAMBRON E., LEBOEUF M.: Le TGV Atlantique - Revue générale des chemins de fer, Paris, September 1983, p. 567.

TGV Atlantique - Rapport - Ministère des transports - La documentation française, Paris, 1984 - 1 Vol., 410 p.

CAIRE D.: Le TGV Atlantique - Chemins de fer, Paris, No. 377, March-April 1986, p. 57; No. 378, May-June 1986, p. 120.

TGV Atlantique - Revue générale des chemins de fer, Paris, December 1986, p. 655.

7.6.2. *TGV "Paris-Est"*

Un TGV "Est"? - Transports, Paris, No. 310, December 1985, p. 733; La Vie du Rail, Paris, No. 2026, 9th January 1986, p. 11.

7.6.3 *La grande vitesse jusqu'à Valence.*

La Vie du Rail, Paris, No. 2080, 5th February 1987, p. 13; No. 2117, 5th November 1987, pp. 16 and 45.

7.7. *Italy - FS*

MISITI L.: 4 binari dal Tevere al Arno: La nuova linea direttissima Roma-Firenze - FS, Rome, 1973 - 1 Vol., 50 p.

RUOPPOLO G.: Le quadruplement de la ligne Rome-Florence - Rail International, Brussels, No. 6, June 1975, p. 535.

MISITI L.: La nuova linea direttissima Roma-Firenze - FS, Rome, 1976 - 1 Vol., 52 p.

La direttissima Roma-Firenze - Ingegneria ferroviaria, Rome, No. 1, January 1978, p. 3.

RIZZOTTI S., CONTI PUORGER A.: Lignes à grande vitesse: expériences et perspectives aux FS - Rail International, Brussels, No. 1, January 1985, p. 117.

RIZZOTTI S., CONTI PUORGER A.: Linee ad alta velocità: esperienze e prospettive nelle FS - Ingegneria ferroviaria, Rome, No. 10, October 1985, p. 661.

CARDINI E., CAVAGNARO M.: Italie, chemin de fer et grande vitesse - transports, Paris, No. 310, December 1985, p. 665.

Sistema ferroviario italiano ad alta velocità - Ferrovie dello Stato, Rome, February 1986 - 3 Vol., 77 p., 100 p., 121 p.

La DD tra Chiusi e Firenze - La tecnica professionale, Rome, No. 6, June 1986, p. 303.

CAVAGNARO M., DE MARINIS P.: Ein neues Hochgeschwindigkeitssystem für Italien - ETR, Darmstadt, No. 5, May 1987, p. 323.

7.8. *Suède - SJ*

The Swedish High Speed Train - ASEA Traction, Västerås, 1986.

ASEA builds Scandinavia's fastest train - Railway Gazette International, London, No. 1, January 1987, p. 53.

ALEXANDERSSON J.: Le développement des trains à grande vitesse en Suède - Rail International, Brussels, No. 2, February 1987, p. 39.

MARKLUND B.: Das schwedische Hochgeschwindigkeits-Projekt - Elektrische Bahnen, Munich, No. 5, May 1987, p. 146.

Roads

RESOLUTION No. 54 CONCERNING THE FITTING AND WEARING OF SEAT BELTS ON THE REAR SEATS OF CARS AND SAFER TRANSPORT OF CHILDREN AND ADULTS

[CM(88)29]

The Council of Ministers of Transport, meeting in Paris, on 29th November 1988

HAVING REGARD TO:

- Resolution No. 28 of 14th June 1973 concerning seat belts;
- Resolution No. 33 of 18th and 19th June 1975 concerning the problem of young children carried in front seats of motor vehicles;
- Resolution No. 38 of 31st May and 1st June 1978 concerning the wearing of seat belts;

CONSIDERING

- That the effectiveness of seat belts can not be contested and has been established by many scientific studies;
- That the studies made show that the wearing of seat belts, compared with the situation of non-wearing, reduce, by at least 50 per cent the risk of being killed or injured in a car accident;
- That this significant reduction of the risk not only concerns the occupants of the front seats of passenger cars but also the occupants of rear seats;
- That passengers in rear seats who do not wear seat belts are not only running a risk of being injured themselves but also endanger persons in front who are using seat belts particularly, for example, if they are thrown forward;
- That restraining devices are not effective solely for adults since similar results can be obtained in the case of children if the devices used are adapted to their age, size and weight;

NOTING

- That it has not as yet been made compulsory in all countries to fit seat belts in the rear seats of new cars;
- That despite the progress recently made in this connection, only a few countries have made it compulsory to use restraining devices for passengers in rear seats;
- That only a few Member or Associate countries of the ECMT have made it compulsory to use restraining devices for children irrespective of their age or the seat in which they are travelling;
- That restraining devices for children are not used sufficiently because the public too often considers, incorrectly, that it is only dangerous for children to travel in the front seats and that they are safe enough in rear seats;
- That despite the fact that restraining devices are acknowledged to have a high degree of effectiveness, there are still too many cases in which their use is not compulsory;

RECOMMENDS the Member countries of the ECMT

1. To make it compulsory for the rear seats of passenger cars to be fitted with seat belts;
2. To introduce as soon as possible provisions stating clearly that all occupants of rear seats of passenger cars, adults and children, should be protected by an adequate restraining system;
3. To make it also compulsory, for children travelling in front seats, to be protected by restraining devices adapted to their size, weight and age;
4. To limit as far as possible the number of categories of person exempt from wearing seat belts.

The Commission has been informed by the Member States that the use of seat belts is not compulsory in all countries. It is therefore recommended that the Commission should continue to monitor the situation in this field and to report to the Council on the progress made.

The Commission has also been informed that the use of child seats is not compulsory in all countries. It is therefore recommended that the Commission should continue to monitor the situation in this field and to report to the Council on the progress made.

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The Commission has also been informed that the use of child seats is not compulsory in all countries. It is therefore recommended that the Commission should continue to monitor the situation in this field and to report to the Council on the progress made.

The Commission is submitting to the Council of Ministers for its approval.

REPORT CONCERNING THE FITTING AND WEARING OF SEAT BELTS ON THE REAR SEATS OF CARS AND SAFER TRANSPORT OF CHILDREN AND ADULTS

Cover Note

[CM(88)29]

In 1973, the Council of Ministers of Transport of the ECMT in its Resolution No. 28, called upon the Conference Member countries to do everything in their power to promote the use of safety belts. In 1978, the Ministers of Transport took the subject up again in their Resolution No. 38 recommending strongly legal provisions concerning the fitting and the use of safety belts as well as accompanying measures of information. Both Resolutions made it clear that the positive effects of safety belts are undisputed. The Committee of Deputies was requested to watch the realisation in practice of the recommendations and to investigate the effects.

The Programme of Cooperation on Road and Road Transport Research of the OECD kept an eye on the development. In 1984-1985, a group of experts of this Programme (under the chairmanship of the United States) submitted the summary report "Effectiveness of safety belt usage programmes", which corroborated the high effectiveness of safety belts. But it was also noted that not all possibilities of improving safety belt usage had been utilised everywhere. Therefore, the following is recommended:

"Safety belt use is an area where the important recommendations are straightforward. First, the enactment of a safety belt use law must be one of the highest priorities of every traffic safety professional. Second, it is not unreasonable to establish belt use goals in excess of 90 per cent. This level of belt use has been achieved in enough jurisdictions to make its accomplishment realistic.

It is further recommended that belt use laws should incorporate a meaningful sanction, that laws should be enforced and that the enforcement must be accompanied by public education."

This situation gave reason to the Road Safety Committee of the ECMT again to work out recommendations for an improvement of the belt use behaviour. It is exactly inadequate and incomplete regulations that can be considered to be a danger for the lasting positive attitude of road users towards the safety belt. This might lead to a decrease in the safety belt wear rate, which again would jeopardize the great success that has widely been achieved to date, and would make the realisation of further improvements considerably more difficult.

The Resolution is submitted to the Council of Ministers for its approval.

**REPORTS APPROVED
BY THE COUNCIL OF MINISTERS**

The following reports were approved by the Council of Ministers on the 15th day of June 1967:

1. Report of the Minister of Health on the work of the Department of Health during the year 1966-67.

2. Report of the Minister of Education on the work of the Department of Education during the year 1966-67.

3. Report of the Minister of Agriculture on the work of the Department of Agriculture during the year 1966-67.

4. Report of the Minister of Labour on the work of the Department of Labour during the year 1966-67.

5. Report of the Minister of Finance on the work of the Department of Finance during the year 1966-67.

6. Report of the Minister of Transport on the work of the Department of Transport during the year 1966-67.

7. Report of the Minister of Social Services on the work of the Department of Social Services during the year 1966-67.

8. Report of the Minister of Housing on the work of the Department of Housing during the year 1966-67.

9. Report of the Minister of Public Works on the work of the Department of Public Works during the year 1966-67.

10. Report of the Minister of Information on the work of the Department of Information during the year 1966-67.

REPORTS

REPORTS APPROVED

BY THE COUNCIL OF MINISTERS

REPORTS APPROVED BY THE COUNCIL OF MINISTERS

Safety has been a major concern of the Council of Ministers since its inception. It has been a constant theme in all its reports and has been a major factor in its decisions.

The Council of Ministers has always been concerned with the safety of the people of the United Kingdom. It has been a constant theme in all its reports and has been a major factor in its decisions.

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FINANCING URBAN PUBLIC TRANSPORT

Cover Note

CM(88)8

During the 1960's and early 1970's, most ECMT Member and Associated countries witnessed a rapid growth in the financing requirements for urban public transport. Recession and the resulting pressure on public finances have led to a situation of widespread concern with the level of financing required. The present report derives from that concern and describes the reactions in ECMT Member and associated countries to the problems of financing urban public transport.

The report, which is presented for information and discussion, is based on replies to questionnaires and on detailed follow up enquiries in 12 countries including 3 Associated members. The work was carried out under the leadership of the French delegation.

In recent years, many countries have stabilised or even improved the operating ratio, i.e. in the proportion of operating costs covered by revenues. This has resulted both from measures to contain costs and increase revenues. Nevertheless, though the operating ratios may have stabilised or even improved, many countries continue to search for ways to stabilise or reduce the *absolute levels* of subsidies.

The role of the different levels of government varies from country to country. In general, the local level is involved more in the financing of operations while the central level tends to dominate for investment, especially in infrastructure. At each level, there is not a strict correspondence between the degree of involvement in the financing and in the degree of responsibility for the organisation of the system. However, there is evidence of a general tendency towards decentralisation and also for economic and political responsibility to be at the same level.

The public funds for urban transport come either from the general budget or from special earmarked funds reserved for public transport. Countries which use earmarking have a guaranteed income which can be an advantage for planning, for investment and for consistent levels of service quality. Countries which do not use earmarking usually require an annual budgetary review; thereby a tighter financial control is maintained, though there is a risk of sudden changes in allocation. The choice of one or other method depends crucially on the political and fiscal context in each country, so that is difficult to make recommendations in this regard.

Many countries now believe that they should recover a greater proportion of the costs from those who benefit most from the transport system. To achieve this some countries have attempted to introduce a programme of rapid fare increases. However, in some cases the resultant declines in passenger numbers have been greater than envisaged and have led to a revision of the fares policy. Despite this, the fares mechanism remains an important policy instrument in meeting public transport's commercial and social objectives. Other beneficiaries of the public transport system, (employers, property owners, traders, motorists) can participate in financing in different ways, for example through various kinds of compulsory taxes or through negotiated participation in the provision of public transport facilities or access.

In most countries, the control of costs has been the principal element in halting or slowing the increase in subsidies. To control costs, a variety of policy responses has been used, including a greater recourse to market mechanisms and to the private sector for undertaking various services as well as more precisely defined targets and control mechanisms.

The extent to which the private sector should be involved is an important and topical policy issue. Some countries believe that services cannot properly be provided by the private sector because public transport has objectives related to the quality of life and the environment that would not be adequately taken into account by the private sector. Others consider that these objectives can be satisfactorily treated within a framework of

private sector participation, which moreover can allow customers' needs to be met in an economically efficient way.

For private sector investment, there is not much experience in urban areas for a variety of reasons which are mentioned in the report. However, it seems likely that the interest being taken in this issue by the public authorities will give rise to some new experiences in the coming years. As far as operations are concerned it is possible, even within the framework of a public monopoly, to resort in numerous ways to the private sector; for example, in the supply of specific transport related services, providing transport according to agreed conditions or in management contracts. On the other hand, outside the framework of a public monopoly, the authorities can simply create the conditions for free competition and leave the private sector take the initiative in producing the services. Experience with this method, so far limited to one country, is too recent to allow definitive conclusions on the advantages and disadvantages.

REPORT ON THE FINANCING OF URBAN PUBLIC TRANSPORT

[CM(88)8]

TABLE OF CONTENTS

1. INTRODUCTION	124
2. <i>Part One.</i> PRESENT SYSTEMS OF FINANCING URBAN PUBLIC TRANSPORT: GENERAL REOURSE TO PUBLIC FUNDS BY MEANS OF A WIDE RANGE OF PROCEDURES	127
3. <i>Part Two.</i> URBAN PUBLIC TRANSPORT IN THE FUTURE: FROM THE PROBLEMS INVOLVED IN PUBLIC FINANCING TO THE QUEST FOR NEW METHODS OF FUNDING AND MANAGING THE SECTOR	137

FINANCING URBAN PUBLIC TRANSPORT

CM(88)8

INTRODUCTION

1. Objectives and working methods

Having noted that the economics of urban public transport have shown a comparable pattern of structural development in the various Western industrialised countries, the Urban Transport Co-ordinating Group decided to study the ways in which these transport systems are financed. This report sets out the findings of this work which had the following objectives:

- i)* To provide a qualitative description of the different funding mechanisms used for urban public transport in ECMT Member and Associate countries, if possible within the individual fiscal contexts;
- ii)* To compare the experiences with a view to analysing the benefits and difficulties relevant to each type of mechanism.

The French Delegation was asked to conduct the study which is based on submissions from thirteen countries in reply to a questionnaire.

The first point ascertained from an analysis of the national reports is that fare revenues do not cover operating costs in any of the reporting countries. Rates of coverage range from 20 to 80 per cent, although any inter-country comparison of these rates is a very delicate matter insofar as the terms "revenues" and "costs" are not defined in the same way by all countries¹. The public authorities must therefore be asked to ensure that a balance is maintained in the operation of the networks.

Since the early 1970s, even though ratios were then much higher, arguments in favour of financial support of urban public transport by the public authorities had been put forward, more particularly in two ECMT reports, one concerning the co-ordination of urban transport [CM(71)23 of November 1971] and the other relating to the financing of urban transport [CM(72)13 of December 1972]. It may be worthwhile reiterating these arguments since they provide the main basis for the policies adopted in the various countries over the period in question.

Public transport has a dual function: as a mode of transport that is economic in terms of space, it relieves the urban roads which are almost saturated and provides means of travel for those who have no other transport facilities. On a broader basis than this approach focusing solely on the management of journeys, public transport plays a vital role in towns by providing means for and facilitating the economic and social relationships which are the fabric of urban life.

The fifteen years that have elapsed since these initial reports have seen the arguments develop as major changes have occurred in terms of both the economic and urban contexts: crisis of town centres, economic recession, energy supplies threatened, increasing sensitivity of the public to environmental problems (ecological equilibria, quality of life, etc.). Depending on the country and the particular period, stress is laid more particularly on one factor or another: contribution to social equity (Greece, for example), beneficial effects of transport on urban life and on the environment (Switzerland), economic and social role (France and Sweden), and so on.

The striking development of the 1970s was the very substantial growth in public transport financing requirements. In the United States, for example, operating subsidies showed a more than fourfold increase between 1970 and 1975 in constant terms and increased again by one-and-a-half times from 1975 to 1980; in

Belgium, the increase was more than fourfold from 1970 to 1983, whereas in Italy they almost tripled from 1970 to 1980 and in France quadrupled from 1975 to 1984. As compared with these efforts, trends in the number of trips differed from country to country, some showing substantial increases in patronage (Denmark, Italy, France, Sweden), others more moderate increases (Canada, the United States, Belgium), or substantial falls in some cases (Australia, United Kingdom, Greece).

At the same time, the public authorities provided substantial financial support for the construction of heavy infrastructures for public transport or for the purchase of rolling stock. For the first time the public authorities took responsibility for public transport investment programmes on the same basis as the more conventional infrastructural programmes such as those for the roads. While the levels at which responsibility was assumed may differ, the general involvement of central governments was evidence of the awareness of the role now to be assigned to public transport in national policies for regional development and controlling the major equilibria in urban areas.

For some years now, however, new questions have been arising which would seem to herald the development of a new set of problems in connection with urban transport. Three main themes are involved.

The first concerns whether the arguments of the early 1970s in favour of developing public transport remain wholly relevant as a basis for the policy for the coming decade?

Table 1. Fare revenue/operating cost ratios
As percentages

Country	Year	R/OC as %
Ireland (Dublin)	84	81
Spain*		
of which: + 400 000 pop. 56		
- 400 000 pop. 97	81	65
Germany ¹	83	61
Switzerland	83	(55-62) ¹
Denmark	84	54
Canada	84	53
United Kingdom	84/5	
1. LRT		52
2. PTEs		51
Australia	84	
1. Victoria State		45
2. N.S.W. State		40
Sweden	84	40
France		84
1. Paris region		35
2. Provinces		46
United States	82	38
Belgium	85	
STI ²		30
SNCV ²		38**
Greece	85	
1. Athens		20
2. Salonika		36
3. Other systems		67
Italy*	81	23
Netherlands	85	22

1. Sample of four networks.

2. STI: six intercommunal transport companies.

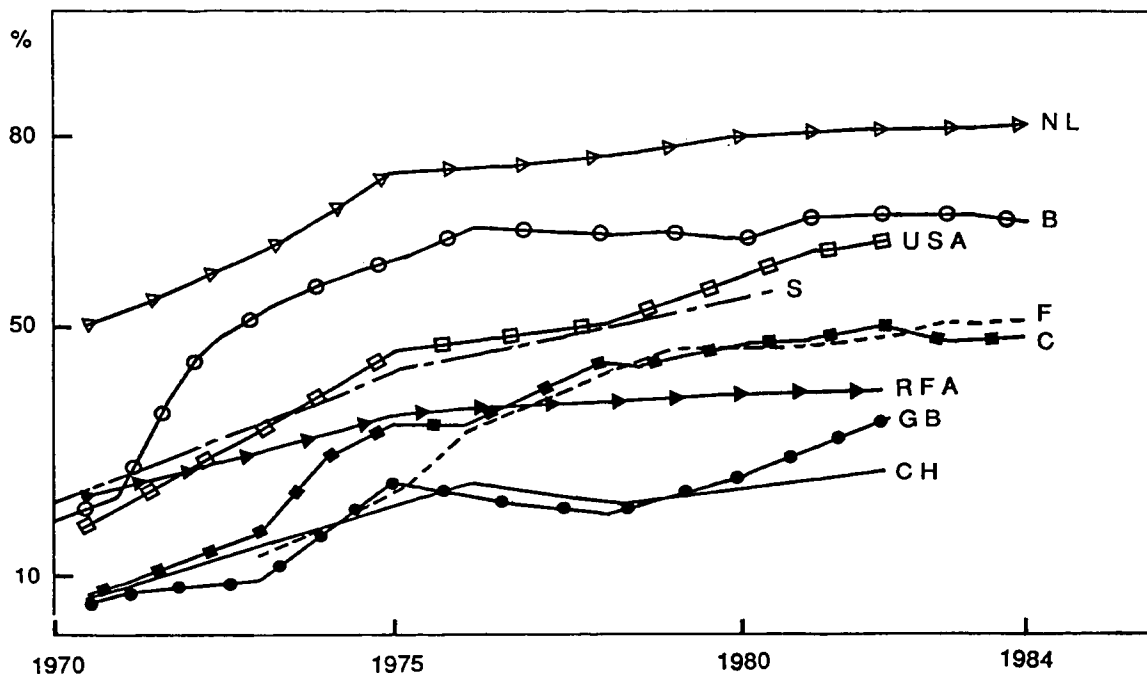
SNCV: regional transport company providing urban services.

* Source: "Actes du Colloque Financement des transports urbains". Lyon, 1984.

** Includes interurban operations.

N.B. The figures given in this table have to be treated with caution, especially when making comparisons since the definitions of "revenues" and "costs" differ considerably from one country to the next. An ECMT sub-group on comparing levels of subsidy is developing a method of comparison.

TRENDS IN SUBSIDIES (% of total operating costs)



Source : E C M T Report: "Changing patterns of urban transport" with data updated on the basis of country reports.

While no one is certainly calling into question the value of public transport in urban areas, trends in some countries indicate a desire to ascertain as closely as possible the best use for such transport, more particularly from the standpoint of economic efficiency.

Public transport might very well be assigned a more restricted role than was envisaged 15 years ago owing to a number of potential developments such as low-density peripheral urban construction, research to reduce emissions of pollutants by private vehicles, lower energy costs, etc.

The second set of questions concerns recourse to public financing, the limits to such finance and the economic grounds for this approach. Given the substantial increase in requirements for such finance for public transport in recent years, governments would like to be able to strike a balance between the funds granted out of the public purse and the advantages derived by the community. As a general rule the tendency now found in the various countries is to put a ceiling on the public funds, supplied but to do so without detriment to the level of development achieved gives rise to the question of the economic efficiency of existing funding systems.

Lastly, the third theme concerns the management of urban transport, including both the financial and institutional aspects, a theme that is the logical outcome of the two preceding sets of questions. Since it would now seem necessary to redefine the optimum role to be assigned to public transport and also establish a new system of sharing the financing, it is advisable to decide what is to be the authority and type of transport organisation that can resolve these problems most effectively.

The terms of this debate are complex insofar as there is bound to be very little practical significance in the over-simplified replies that can be put forward as regards the public or private logic of developing public transport or as regards methods of public or private management of the networks. This is however a major issue of importance to both the public or private authorities responsible for managing the funding and for the citizens whose "urban well-being" depends, among other things, on the standard of public transport services available.

The first part of this report summarises the funding methods now existing in various countries and, in the light of the situations described, the second part examines the existing and future problems in connection with urban public transport.

Part One

PRESENT SYSTEMS OF FINANCING URBAN PUBLIC TRANSPORT: GENERAL RECOURSE TO PUBLIC FUNDS BY MEANS OF A WIDE RANGE OF PROCEDURES

The following summary description puts forward two successive angles of approach:

- a) The various categories of official financial support and the levels of government concerned are summarised. Given the specific nature of funding investment, as ascertained in reviewing the situation in most countries, a distinction is made between operational expenditure and investment;
- b) Source of official funds. An effort has been made here to list the funding methods used to supplement resources from the general budget which are the practical solutions adopted in some countries for the particular problem of financing the sector.

Examples are given throughout the text to illustrate various policies or actions. While countries given as examples have verified the information no conclusion can be drawn about countries not included in the illustrations. The information provided was limited by availability. For individual countries further details are often given in the annexes.

It should be noted that it was essentially the availability of information that determined the examples given in the report.

The analysis can be summed up as presenting diverse solutions to similar problems, a fact that is no doubt bound up with the specific historical and cultural background of each country which in each case involves a particular idea of the sphere of intervention by the public authorities, the way in which such intervention is divided up among the various territorial levels of authority, and the role to be played by the private sector.

Urban public transport falls into a specific political and administrative context. Its method of management in a given country is not independent of the method used for other public services and facilities in that country, which means that any analysis of the financing of public transport will necessarily go beyond this sector and beyond financial issues as such. To acknowledge this fact is not to say that any effort will be ineffective but rather to size up the real nature of the problems involved.

1. Different Forms of Official Financial Support

1.1 *Operational* (see Annex 2)

Official support may be on the expenditure or revenue side, and most countries use both forms at the same time.

1.1.1 *Measures relating to expenditure*

a) Tax exemptions

These may relate to various spheres:

- Tax reduction or exemption on motor fuels, which are the most common method (Germany up to 1983, Canada, United Kingdom);
- Tax exemption on motor vehicles (Belgium, Germany, Spain);
- Tax reduction on turnover of undertakings (Germany);
- Exemption from the tax on company profits (Belgium).

b) Supply of some inputs at a reduced cost

This approach is not systematic and takes various forms. The local authority may supply some goods that it produces (electricity, gas) at a reduced price or sub-contract certain services (maintenance of stops or rolling stock in small networks).

c) Road network measures which are to the advantage of public transport:

The public authorities – particularly when they are responsible for running the road network – frequently bear the operating costs themselves and in many cases the investment costs relating to road and traffic measures which are to the advantage of surface transport.

1.1.2 *Measures relating to revenue*

a) Compensation for service obligations

The obligations in question differ from country to country and in some cases from town to town within the same country:

- i) Obligation to provide transport for certain categories of user: disabled persons, students or schoolchildren travelling for study-related reasons, etc.
- ii) Obligation to grant reduced fares to certain categories of user: students or schoolchildren, the elderly, large families, low-income individuals, the unemployed, users transferring to other services, etc.
- iii) Obligation to run a loss-making service, usually at a specific time (early morning or late evening) or in specific geographical areas (suburbs or towns) where there is little demand.

The compensation machinery may either fully cover the deficit entailed by the obligation or endeavour to provide an incentive in the case of fare reductions by covering only part of the shortfall in revenue.

It should be noted that some districts buy travel passes from the transport undertaking so as to offer them more cheaply or free of charge to certain members of the population (for example, the city of Paris buys “cartes-oranges” passes to offer free of charge to the unemployed living in the city). Such measures by the public authorities are seldom entered in the accounts of the transport undertakings but only the accounts of the local authorities themselves and they are covered by specific budgets (social assistance budgets, for example).

b) Special support for research experiments and demonstrations or for taking account of particular objectives:

Such support is allocated to basic or applied research, to the development of new equipment or the testing of new operating techniques which may help to achieve certain objectives such as energy savings, provision of services for particular kinds of district, etc.

c) Subsidies to cover deficits:

The above-mentioned support very seldom covers the whole of the operating costs. The above-mentioned financial measures relating to revenue are, so far as the local authorities are concerned, counterparts of the public interest responsibility that they require the transport networks to assume. Through their financial contribution towards maintaining the operational balance, they are directly confronted with the structural operating deficit.

1.2 *Investment* (see Annex 3)

1.2.1 *The particular case of investment*

Official support for investment in urban public transport is found in all countries. Even in the United Kingdom outside of London the changes under way authorise the local authorities to participate in the supply of certain facilities (roads, stops and stations) as before, provided that there is no discrimination among operators. Such expenditure may be subsidised at central government level in the United Kingdom.

It seems that the justification for such practices is to be found in an economic theory – to which reference is made either implicitly or explicitly – whereby investment in the transport sector differs in a number of particular ways from investment carried out by enterprises in a market economy context.

First the effects of such investment are not confined to the accounts of the operating undertaking and cannot be assessed solely in financial terms. The choice of investment projects is usually governed by the public authorities' assessment of their broader economic and social value.

As a general rule, moreover, revenues from fares alone do not always ensure a strict financial return from a project. Even the more limited requirement of a balanced operating account is not always achieved, and one of the main consequences of this is that profits cannot be put in reserve with a view to being ploughed back into the business.

A decision to invest is not therefore taken in the same way as in a conventional market sector activity since the public authorities are required to participate in both the selection of the project and in its financing.

This is the prevailing situation in most countries and, other than in the United Kingdom, applies to both heavy infrastructure and rolling stock. It would now seem to be a marginal case for private carriers who own their own equipment to provide transport services in the small towns and on the outskirts of the larger ones (primarily found in Denmark, France and Sweden, and to a lesser extent in Germany and the United States).

In most cases, therefore, two situations exist vis-à-vis investment :

- a) The public authorities carry out the investment themselves, as is the case for road infrastructures and for infrastructures or public transport equipment when the authorities directly operate the network (non-autonomous public corporations) or when a public or private enterprise is responsible solely for operating the network (as for example outside the Paris region in France where the towns own the equipment needed to operate the network and such equipment is placed at the disposal of a company which manages it).
- b) The investment projects are carried out by an independent undertaking after approval by the public authorities and recourse to earmarked loans.

There is no formal distinction between these two approaches. In the first, the advisability of the transport investment project must be weighed against other forms of public investment (swimming pool, nursery, canteen, etc.) and the rules applied are those of public finance and accounting, which may have implications from the standpoint of the practical methods of financing. In the second case, the advisability of an investment project is first weighed against other expenditure on transport and the competition with other projects is often only indirect. The rules applied to its financing will in this case be the same as those applied to enterprises. The trade-offs take effect in the selection of the investment, however, through the control of conditions of access to the financial market (loan authorisations, for example).

One final difference is that in the first case the public authorities carrying out the investment may receive public funds from an authority at a higher level and be able to decide whether to supplement the finance from its own budget – possibly by an increase in tax revenues – or borrow. In the second case, subsidies may be provided by public authorities at various levels and the rest of the finance will be equity capital, with a small proportion of own funds and borrowed capital, some on the normal terms prevailing on the market.

1.2.2 *Main categories of official support*

There are three main sources of finance for investment projects: equity capital (self-financing), subsidies and loans. Official support may be broken down into the following three categories:

a) Capital grants

This type of support is found in most of the countries under consideration. The grants may be issued on the basis of predetermined rules: fixed percentage of the total investment cost as in Germany and the Netherlands, for example, or be negotiated case by case on the basis of criteria relevant to the size of the project, type (replacement or extension, location), and so on, as in the United States for the funds provided under the discretionary grant programme. In Spain, a contract programme is used for the underground in which the State investment and subsidies are fixed.

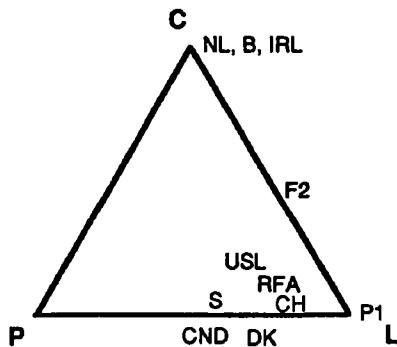
b) Low-interest loans

These are usually loans provided by official bodies or agencies acting on behalf of public authorities which issue the loans at interest rates lower than those prevailing on the market or, in some circumstances, even free of interest. It seems that this practice exists (or has existed) in a number of countries, even though our survey provides little information in this connection. Greece and Switzerland issue such loans free of interest; in the past Belgium, France Greece and Spain supplied low-interest loans.

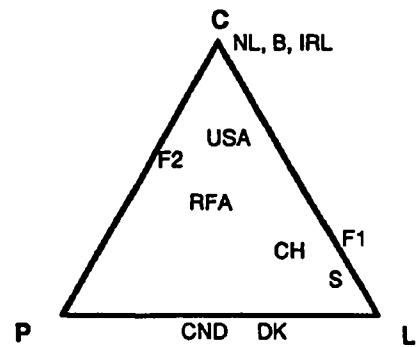
BREAKDOWN OF FINANCING BETWEEN CENTRAL GOVERNMENT AND LOCAL AND PROVINCIAL AUTHORITIES

1984

OPERATING



INVESTMENT



C = Central
P = Provincial
L = Local

c) Other support

What might be considered a special form of support is the loan security provided by the public authorities to public or private enterprises which borrow on the financial market.

Tax exemptions on the capital, which are quite rare, can also be regarded as special forms of support. In Canada, transport vehicles carrying 12 or more passengers are exempt from the Federal purchase tax. In the United States tax relief on depreciation of capital equipment may be granted to other enterprises.

d) Indirect support

Such support does not consist of the provision of funds for the networks or transport authorities but is located upstream from investment. More particularly, it concerns programmes of financial support for the transport equipment industry (vehicles, vehicle equipment).

1.3. Centralisation or decentralisation of the levels at which funds are provided

1.3.1. Official funds are provided at three levels (see Table in Annex 1):

Once public finance is called upon it may be provided centrally, i.e. by the central government, locally, that is to say in the towns served, or at the intermediate regional level, the latter being the most difficult to define. In Germany, for example, these three levels are clearly seen, each acting within spheres of competence which differ sharply from those of the other two levels. In Canada, each provincial government has a high degree of autonomy as regards the organisation of urban public transport, while the federal government has a relatively small role as regards both financing and regulation. Accordingly, for any given Canadian city, it can be considered that the province to which it belongs is the central level. However, for the sake of consistency, we have not adopted this latter interpretation.

Breaking down public funding by country and by these three levels shows that:

- a) The highest levels (regional and national) are called on for investment finance more than for operating finance;
- b) Four groups of countries can be differentiated in terms of the source of official funds;
 - Those in which the central level is the only one involved no matter what the funds are to be used for: Belgium, Ireland, Netherlands;
 - Those in which the local level is almost exclusively the provider of operating finance: France (outside the Paris region);
 - Those in which operating finance is provided jointly by the local and regional levels: Canada, Denmark, Sweden;
 - Those in which all three levels are significantly involved for both operating and investment finance: France (Paris region), Germany, Switzerland, United States.

1.3.2 Respective roles of the three levels

a) Central level

Some countries have a centralised organisation of financing: Belgium, Ireland, and Netherlands. In others, the State can intervene in the financing of operations in the Capitals (Paris, London), or in the most important towns (as in Spain for towns with more than 100 000 people). Otherwise, central level funding of urban public transport operations is confined to particular categories of support:

- Exceptional support for experiments, demonstrations, etc. is the most common;
- Tax exemption, where the central government is the final recipient of the tax revenue in question (or a part of the revenue);
- Compensation for service obligations where such obligations are considered to be of national interest.

As regards investment, heavy infrastructures are traditionally an area of concern for the central level, even in countries where the regional level is developed. The central level is also approached for rolling stock in cases where the regions have little responsibility. Central government is however becoming less involved, which means that some forms of intervention are being transferred to the regional level in countries with a federal system.

b) Regional level

The regional level is important to the operation of transport systems in two contexts:

- In countries with a federal structure, such as Germany, Australia, the United States, Canada and, more exceptionally, Switzerland; or
- Where public transport is organised on a broader territorial basis than the district or built-up area, as in Sweden or Denmark where the county is the public transport authority, another example being the Paris region.

Regional methods of providing public funds differ quite sharply across countries. In some cases it may involve joint responsibility for determining services, volume of services to be offered, etc. together with local authorities, and the region then has joint responsibility for covering operating deficits (Canada, Denmark, Sweden). In other cases, however, the region confines its participation to certain categories of expenditure, as does central government in some countries. This is what happens in Germany where the Länder carry the financial burden of particular tax exemptions or provide compensation for fare reductions, except for certain urban rail services paid for by the Federal Government.

As regards investment, the role of the regional level of course depends on the country's administrative organisation and the weight of the central level. The regional level frequently subsidises purchases of rolling stock and supplements the national subsidies for heavy infrastructures. In Australia and Canada where the central government has a very small role, the regional level has a role comparable to that of the central level in other countries. In Spain some regional governments (Catalonia, Canaries) participate in the financing of urban transport in the regional capitals.

c) Local level

It is usually up to the local level to supplement the funds obtained from higher levels for investment and

ensure net coverage of the operating deficit. In some countries with a decentralised system such as France, Germany or Switzerland, the local level may have a very important role in funding operations.

At this stage of the analysis it would seem useful to differentiate between the ordinary and extraordinary funder (see Annexes 2 and 3). Both types are usually involved where the official funding of urban public transport is concerned. As a general rule, the ordinary funder is the one who assumes final financial responsibility for decisions taken. In France or Germany it is the communes or associations of communes which also rely on funds provided under special conditions (according to rules governing competence for such allocations or on the basis of an agreement) by an extraordinary funder, namely the central government in France and the Federal Government and Länder in Germany. The distinction is not made in some countries such as Belgium, Ireland or the Netherlands. One of the advantages of this approach might be to get a much clearer picture of what the specific responsibilities are at the various levels. It seems logical that the ordinary funder should correspond to the level of authority most involved in the specific organisation of urban public transport (introduction or withdrawal of a service, choice of methods of operation or the establishment of fare structures). In many countries this level is the closest to the public and its requirements, namely local level. The extraordinary funder has no direct responsibility but can introduce rational factors which only assume their full significance on a broader geographical scale: industrial policies, correction of imbalances as regards land-use planning, social equity. The funding process can be one of the ways of taking account of such factors. Whatever the level, there is not a strict correspondence between the economic and political responsibility for urban public transport, even if this appears preferable and is happening in several countries. Such considerations led the Netherlands to increase the financial role of the local level to conform better with its political role.

2. Origin of official funds

2.1 Influence of the general structure of public resources

The public authorities usually have four main categories of resources: revenue from taxes and duties, income from tariffs and charges in exchange for services provided, loans and, lastly, transfers of resources and grants from other authorities. The breakdown among these four sources differs from one country to another.

Although Belgium, Ireland and the Netherlands are exceptions, the organisation of the urban transport sector is usually decentralised, so it is natural to give priority to the consideration of local resources. The four main categories mentioned above are of course found but the differences between the countries is probably more marked. The "Government Finance Statistics Yearbook", Vol. VIII, IMF, 1984, quoted by Professor Remy Prudhomme², shows that the share of local taxes in total resources of the local authorities in 1982 was 2 per cent in the Netherlands and 9 per cent in Italy as compared with 55 per cent in Sweden, while it was by and large between 30 and 40 per cent in the other countries. The share of subsidies differs to a greater extent, ranging from 22 per cent in Spain and 24 per cent in Sweden to 51 per cent in Denmark, 57 per cent in Italy and 84 per cent in the Netherlands.

Recourse to loans is also very uneven across countries: at a low level in Denmark and Switzerland (2 per cent), higher in France (9 per cent) and Spain (14 per cent) and even attaining 30 per cent in Italy. Income from other sources, especially charges and tolls, is much higher in Germany (36 per cent) than in the other countries (4 per cent to 20 per cent).

The question of financing local public services, and urban public transport in particular, therefore differs very considerably from one country to another owing to these disparities in the structure of overall local resources, although this is not the only source of disparity. The situation differs widely according to the bases of assessment of these taxes: income, property or activity, particular examples being the Scandinavian countries which tax income, the United Kingdom which has recourse to taxes on property, or Germany which uses a tax on income and a tax on activities.

Other differences are involved in terms of the type of support, especially in the case of block grants which give greater freedom to the local authorities than specific grants allocated at national level to a specific project.

Lastly, the terms of loans raised by local authorities may differ from one country to another, primarily depending on whether or not there are special advantageous financing procedures which are found in many countries in widely differing forms.

2.2. *Origin of official funds allocated to urban public transport*

This section is concerned with revenues, other than those from the general budget, allocated to transport, and such revenues are here classified under the four above-mentioned categories (tax revenues, charges, transfers and loans).

There is seen to be a very wide range of resources allocated to transport, particularly those from taxation or related sources. No system in fact uses the whole range, and only three countries assign an important role to this type of revenue: Germany, France and the United States. In the first two, the system is based essentially on a single resource which, moreover, differs in each case. The other solutions come from the United States and are very diverse for three reasons: the number of American states, the considerable autonomy of each state in fiscal matters, which means that each works out its own solution and, lastly, the fact that the technique of earmarking tax revenue is common practice in that country. Many forms of revenue are earmarked there, and the official finance for public transport systems is obtained in a number of cases as a result of successive decisions whereby the revenue (or some of the revenue) from a particular tax is added to that from a different type of levy. In the United States, therefore, public funding stems from a combination of resources, a combination that differs according to the state or town (type and weight of the various resources mobilised).

2.2.1 *Revenues from duties, taxes and other compulsory levies*

Such revenues have very diverse origins, particularly in the United States, but they belong to two major categories: contributions by economic agents or activities which benefit from the transport network or, conversely, have negative effects on it; and the contributions of agents or activities which have no direct or indirect relationship with the transport sector. For example, a duty on motor fuel falls into the first category insofar as motorists benefit from the existence of the network which helps to reduce the volume of car traffic and insofar as the tax penalises motorists for congestion on particular trunk roads. On the other hand, a duty on tobacco would be in the second category.

2.2.1.1 *Levies relevant to transport sector externalities or the activity concerned:*

A. Landed property: this type of tax is essentially found in the United States and the revenue is allocated to the transport sector in three ways:

- Allocation of all or part of the tax revenue (obtained by increasing the rate of tax);
- Allocation of the part of the tax revenue resulting from an increase in the value of the land after a given reference date. This technique means that the rate of tax does not have to be increased while the revenue does not fall in relation to a given reference situation;
- Surtaxes on land located within predetermined areas in the vicinity of transport axes.

In Australia this type of taxation was used to finance the Melbourne Rail Loop.

B. Activities:

The taxes may relate to activities as a whole or specific activities.

B.1. General taxes

These are usually taxes paid by enterprises on the basis of the wage bill. The best known example is that of France where this revenue is collected and administered at local level, the decision to levy the tax being the responsibility of the local authority. There is a similar tax on the wage bill in Vienna in Austria and in the State of Oregon in the United States.

The State of Arkansas has a corporate franchise tax and some of the revenue is allocated to a fund to top-up the federal subsidies; similarly, local authorities in the State of Virginia have a business licence tax.

B.2. Taxes on specific activities

a) Retail trade

The retail sales tax is one of the main fiscal resources of States in the United States and ranks second in importance at local level. A number of States make use of this resource either directly or by authorising its use by local authorities. This tax is employed primarily in California, where 0.25 per cent of the revenue goes into a fund to support the counties, Florida where the counties are entitled to levy a 1 per cent tax to be allocated to tracked transport projects, Indiana where 76 per cent of the State's revenue from the tax is allocated to transport, New Orleans in Louisiana, Ohio, and Utah.

b) Promoters

The activity of developing and promoting premises for residential, office or commercial purposes may be subject to levies by means of specific surtaxes on particular projects. This financing technique has been used in the United States, more particularly in San Francisco where a service charge is levied on new buildings for commercial purposes in certain sectors of the city centre.

c) Oil activity

Oil companies established in the State of New York have to pay a special Gross Receipts Tax of 2 per cent which is allocated to transport.

d) Employees

Employees in Cincinnati (Ohio, USA) pay a special tax on their salaries and wages (3 per cent) which is specifically allocated to the city's public transport. The revenue from this tax covers 30 per cent of the annual operating budget.

C. Taxes on motorists

C.1. Taxes related to ownership of a motor vehicle:

These levies may take three forms:

- Tax on retail sales of new or second-hand private vehicles;
- A fee for registering the vehicle ("carte grise" in France);
- An annual vehicle tax ("vignette" in France).

This type of tax exists in most countries and the revenue from it is in some cases allocated to a particular territorial authority: the Länder in Germany, regions in France, or municipalities in Spain. Somewhat less frequently the revenue is allocated to public transport, as in some States in the United States (Michigan, Nebraska, the towns of North Carolina, Washington, Wisconsin).

C.2. Taxes related to the use of motor vehicles:

The most common of this kind are the taxes on oil products (motor fuels and oils). The allocation (or the possibility of allocating) some of the revenue from taxes on motor fuels to public transport operations is to be found at federal level in several States in the United States, particularly in California, Florida, Kansas, Michigan and Nebraska. A local tax is sometimes added to it, as in Illinois.

In Europe, this possibility was used in France from 1983 to 1986 and is still being used in Germany where it has existed since 1966 (the methods having changed over the years). The tax is levied at national level in Germany and France. In both European cases and in most of the cases in the United States, the revenue from the tax is allocated to an investment fund which is used for both road and public transport operations. The breakdown between these two types of operation may either be established at the outset, as in Germany, or remain unspecified as in France or Spain, changing as circumstances require.

Systems whereby motorists are charged for using their vehicles in congested areas have not been applied in the countries under consideration, although researchers and operators in the transport sector are keeping a close eye on experiments such as those in Singapore.

2.2.1.2 *Taxes unrelated to transport sector externalities or the activity concerned*

In some states in the United States certain consumer taxes are allocated to transport, more particularly taxes or surtaxes on alcohol (local tax on beer in Birmingham, Alabama, tax levied by the State of Idaho), cigarettes (Illinois) or hotels and motels (Idaho).

2.2.2 *Revenues from charges or income from other services*

Such revenue differs considerably according to the type of service administered directly by local authorities. The municipal and quasi-municipal sector which covers all local services has different levels of development in the various countries and the methods of administering these services enable transfers to be made more or less easily from services showing a "profit" to those recording a "deficit".

Travel-related services may be differentiated from other services.

2.2.2.1 *Travel-related services*

A. Income relating to infrastructural use

Such income consists of tolls paid by users of urban motorways, bridges or tunnels which is usually used to finance the repayment of loans for the construction of the infrastructure but there are cases where some may be allocated to the financing of public transport. In the United States, for example, this is the case in New York, Philadelphia and San Francisco.

B. Income from parking charges

Income provided by parking facilities and parking fines is used in Switzerland to finance some urban road investment projects for private traffic or public transport.

2.2.2.2 *Other public services*

What is in fact involved here is a question of transfers within the municipal budget, a kind of cross-subsidy process, the services providing the funds usually being those of water distribution and, in some cases, gas or electricity. The transfer can be carried out by means of a surcharge on consumption of, more simply, an increase in rates.

This system of funding is used primarily in Germany where the financial administration of some 60 per cent of local transport undertakings is integrated with other local public services within a single enterprise. In 1981, this compensation of losses by profits made by other urban public networks amounted to 25 per cent of the overall deficit.

These cross-subsidies exist in Austria, in some networks in the United States and in British Columbia, Canada.

2.2.2.3 *Other income*

Games of chance have long provided sources of revenue for government budgets. National lotteries have existed in Europe since the 18th century and competitions in which the public forecast results have been introduced more recently to finance particular activities, especially in the sphere of sports. Lotteries are less frequently used to finance public transport, but such is the case in two American States: Arizona uses a lottery as the sole source of financing its transport budget and Pennsylvania has recourse to funds of this kind to finance transport operations on behalf of elderly persons (these funds account for half of the net income from the lottery and 22 per cent of the State's contribution towards coverage of operating costs).

2.2.3 *Transfers of resources from other authorities*

This does not involve specific subsidies for a particular project but block grants for public transport which usually come from a higher level.

Such grants have in most cases been introduced at a time when central government is withdrawing or is delegating its responsibilities to local level. The following three examples of block grants may be given:

- In 1981, the Australian Federal Government decided to discontinue specific subsidies for public transport and to increase its block grant to States by an indexed fixed amount corresponding to the level of support provided beforehand;
- In Denmark, when the Greater Copenhagen Council became the transport authority it assumed responsibility for the suburban railways which had previously been run by the State, a transfer of responsibility that was accompanied by a transfer of resources from the government equivalent to the discounted total deficit of these services;
- In France, the central government has transferred responsibility for school transport to the Départements and local authorities and, at the same time, has transferred funds corresponding to the amounts that it previously allocated to such transport.

In all three cases it is left up to the local authorities concerned to decide how they are going to use the amounts transferred.

2.2.4 *Financing by means of loans*

2.2.4.1 *Specialised or general financial channels*

Leaving aside the case of Denmark, where investment projects have to be paid for immediately, it can be

said that the main point in relation to borrowing is that the financial channels are specialised. Such systems exist, or have existed, in Australia, Belgium, France, Germany, Spain and Switzerland, whereas in such countries as the United States, and Greece the system is general, i.e. in theory the local authorities and public undertakings come under the same system as private firms or individuals. In the United Kingdom local authorities may borrow on the market in their own right but as a normal rule nationalised industries (British Rail and London Regional Transport) may not.

By and large the interest rates on loans contracted through specialised channels are lower than market rates owing to the tax advantages enjoyed by the financial institutions themselves or the savings they hold on behalf of private individuals or, where Government acts as intermediary, to the exceptional scale and security of Government borrowing. Access to these special channels means however that certain requirements have to be met, such as approval of the investment programmes by a higher public authority or particular rules for public procurement which prohibit the use of financial techniques authorised for enterprises. In France, for example, leasing is authorised for specific equipment only.

In the United States, since the system is in theory common to all, the public authorities may have recourse to the same financing techniques as private enterprises and, more particularly, take advantage of the innovations proposed by financial institutions. In practice, however, the system is not as competitive and open to all as it might seem since the interest rates on loans to local authorities are exempt from federal income tax and this exemption extends to other financial instruments available to them.

2.2.4.2 Loans and other earmarked funding resources:

When transport enterprises have a certain autonomy they may need to top up the various forms of official support, whatever the source and type (subsidies or low-interest loans) by earmarked loans or other financial assistance. They must therefore have instruments which are sufficiently attractive to be of interest to private investors but which the public authority or transport undertaking find more advantageous than a normal loan.

An initial group of financial instruments is related to the lease-back system and has been used by a number of urban transport networks in the United States and the United Kingdom to finance purchases of rolling stock.

In all cases, the system is based on the idea of making a separation between the possession and economic use of an asset and the legal ownership of it. The terms are such that an outside partner acquires legal ownership (and sometimes only the tax advantages) of an operational asset which he makes available to the undertaking (or local authority) by means of a leasing contract. The leasing company benefits from the tax advantages relevant to such ownership and passes on some of these advantages to the user of the operational asset. Various financial techniques are involved in this connection:

- Leasing, which enables the undertaking to obtain funds that it would not necessarily otherwise be granted, the risk of the financial institution being covered by the fact that it owns the asset financed.
- The lease-back system, which is a special form of leasing where the credit institution buys from the network equipment already owned and assigns use of it to the network under a leasing contract. This procedure enables the network to transform the fixed assets into liquid assets while still being able to use them.
- The "safe harbor" leasing technique used in the United States whereby official bodies can sell to the profit-making enterprises solely the physical ownership of an asset. These enterprises can then benefit from the tax advantages associated with the depreciation of the asset as they would if they owned it.

It should be noted that all these techniques operate between three partners: the transport undertaking (or public authority), the outside financial partner, and the tax authorities, the first two sharing the advantages granted by the third. The rules involved necessarily depend on the administrative and tax regulations in force in the country concerned, and any attempt to transfer these techniques from one country to another would call for adjustments that need to be examined case by case.

Another system was introduced in France in 1983 to enable public undertakings or co-operatives to increase their equity capital without changing the public or communal nature of their share capital, namely the issue of "titres participatifs" which are equivalent to shares with no voting rights. The dividends include a fixed part and a part related to the volume of activity of the undertaking. This system could also be used in the case of public undertakings providing passenger transport.

Part Two

URBAN PUBLIC TRANSPORT IN THE FUTURE: FROM THE PROBLEMS INVOLVED IN PUBLIC FINANCING TO THE QUEST FOR NEW METHODS OF FUNDING AND MANAGING THE SECTOR

All the questions and discussions relevant to the financing of urban public transport have focused on three major centres of interest which have emerged successively over the past fifteen years, each corresponding to a matter of concern that has superimposed itself upon – but not replaced – the previous one, so none of the debates has as yet been brought to a close.

The first major centre of interest is that covered by the two ECMT reports of 1971 and 1972 and concerns forms of official support: what methods of intervention? At what level of administration and government? By what means (loans or grants, investment or operation)? The second matter of concern relates to the mobilisation of resources to cater for the urban public transport sector's increasing need for finance. Can the general budget, the main source of official funds, be supplemented by specific resources? Is it necessary to create new revenues earmarked for public transport? What criteria and what means are to be used? In recent years it seems that a third set of issues has arisen in connected with both the institutional and financial implications of the methods of managing and organising the sector. More specifically, the main point is to ascertain whether greater use can be made of market mechanisms for the production of transport services so as to make more efficient use of official funds.

It is worth examining these matters in greater detail with a view to throwing more light on the discussions now being held by the operators and policy-makers concerned.

1. Forms of Official Support

1.1. What are the respective roles of the various levels of administration and government?

The various countries have resolved this matter in different ways since some have highly decentralised organisations, while in others almost all official funds are provided by central government. Two points should be made, however: it is rare for central government to withdraw entirely and it frequently intervenes with respect to heavy infrastructures; in a number of countries, central government is tending to become less involved, at any rate where operation of the systems is concerned (Australia, Denmark, France, Netherlands, United States), though in Spain in recent years the tendency has been in the other direction.

There are many arguments in favour of management at local level: clearer picture of requirements and constraints, adequate supervision of operations, and co-ordination with other means of transport and urban planning operations. Where the decision-making responsibility is at local level, it would seem logical for the financial consequences of such decisions to be at the same level. On the other hand, where the decision-making responsibility has fallen to the central government, the resulting administrative and regulatory structures may be a source of tension or detrimental bureaucratic delays.

Even in cases where the main responsibility for organising urban public transport is assumed locally, the central government is rarely entirely absent, and other considerations are put forward to justify the fact that it remains involved: land-use planning objectives and the correction of interregional imbalances, maintenance of certain sectors of activity (construction of transport equipment, public works), and other national objectives (energy conservation, support for technical innovation, assistance for certain categories of the population, maintaining the quality of urban life).

Once the responsibility of the public authorities is accepted, the whole question hinges upon how this responsibility is to be shared among the different levels, a subject that goes well beyond the transport sector alone since it concerns the administrative organisation as a whole and has repercussions on local finances.

1.2. *How is official support provided (See Annexes 2 and 3)*

Official support may relate to the operational side or investment and may be in the form of grants or loans, the former being either block or specific grants. Trends in funding requirements since the early 1970s have been such that official support is no longer confined to investment. The problem as regards financial support for operating is that of developing means of encouraging the undertakings to increase the other revenues and step up productivity. In some countries, pre-established objectives as regards costs and revenues are taken into account in determining the amount of support granted (Canada and Spain with the contract programmes), in others a ceiling may be established as a percentage of total operating expenditure (some Swiss cities), while in others the operation is in the hands of private undertakings which are remunerated on the basis of the standard of management (France outside the Paris region).

The question of support for investment is somewhat delicate. Some maintain that it is better to grant loans since the managerial autonomy of the undertakings is accordingly preserved. However, where undertakings do not break-even on the operational side they find it difficult to maintain an adequate level of own resources and the problem of indebtedness may then arise. On the other hand, support in the form of grants may come up against the constraints on official budgets. One way of resolving this conflict might be to identify the type of investment more specifically and restrict the grants to investment projects selected on the basis of policy decisions, while the other projects are to be financed from own resources and borrowing on the basis of financial procedures to be established in the light of the particular national and local contexts.

2. **The Funding Capacity of Public Authorities**

What resources are to be mobilised?

Whatever their source, the use of official funds to finance urban public transport is justified by the theory of externalities: the effects without counterpart of an activity on other activities, enterprises or individuals. According to this theory, urban public transport procures indirect advantages for some economic agents without deriving a profit from them and is itself the subject of negative externalities. The effect of official funding would therefore be to correct the imperfect functioning of the market which cannot take account of the externalities spontaneously.

2.1. *General budget or specific resources?*

Other than in the United States, in most countries there is a presumption against earmarked tax resources. Funding public expenditure out of the general budget enables the public authorities to make clear-cut trade-offs between different categories of expenditure on the basis of policy priorities. It is clearly a major responsibility of the elected government to decide each year on the resources and how they are to be used in the light of its own perception of requirements.

Notwithstanding these principles, a few countries have agreed to make exceptions to finance certain categories of expenditure. The use of the general budget calls for a review of the situation each year and creates uncertainty as to the degree of priority and resources to be allocated to a particular field. When the public activity is to be pursued over a number of years, some stability and, more particularly, predictability of resources becomes necessary. When resources are scarce, moreover, competition is keener for them between public transport and roads and also between travel-related expenditure and expenditure on other public services (education, health, etc.). In these circumstances there is understandably a considerable temptation to preserve public transport by removing it from the competition by taking out of the budget, i.e. often by including the resources in question for earmarked use in ancillary budgets, so the annual trade-off procedure is avoided and the resources are less in evidence.

In the last analysis, these practical considerations are quite far removed from the theory of externalities which has little bearing on this matter. Rather than tax a single category of beneficiaries, one might prefer to use the general budget on the principle that there are many categories of beneficiaries and even that some of the benefits are widespread and concern the community as a whole.

2.2. *Criteria for evaluating an earmarked resource*

These criteria are ranked in order of diminishing importance from the standpoint of the members of the working group. They may be applied to any funding process that is not based on the general budget.

2.2.1 *Feasibility of introducing a new system*

The feasibility of introducing a new funding mechanism must be examined from three standpoints: the legal and regulatory decisions involved in authorising its introduction, the procedures for collecting and administering the funds and, lastly, the political feasibility, i.e. its acceptance by public opinion and elected representatives. Any assessment made from these three angles necessarily depends on the national and local contexts.

A specific funding system is that much easier to introduce if the existing legal and regulatory framework and current practices in terms of official funding do not have to be adapted to any great extent, so the question arises as to how this framework is to be changed:

- Does legislation have to be passed at national level? If so, which ministerial departments and/or regulatory fields are involved and what problems of co-ordination and consistency arise?
- If a local resource is involved, is the mechanism compatible with the tax prerogatives at the various administrative and governmental levels? What are the regulatory frameworks for local decision-taking in this field and do they have to be adapted?

Procedures for collecting and administering the funds may increase the legal and regulatory difficulties if the new system cannot be grafted onto already established procedures. The establishment of a specific procedure would then entail initial and administrative costs that would have to be set against the expected benefits. As a general rule, the difficulty is greater for a local resource and for certain taxes. For example, in many countries (Germany, Italy, France, Sweden, Spain, etc.) there are no local taxes on private consumption, so it is difficult to introduce specific local taxes in this connection, especially taxes on motor fuels, since collection and redistribution machinery does not exist at local level. For the sake of economy and simplicity, therefore, one might be tempted to adopt solely levies which make only slight differentiations or none at all, an approach that may conflict with the objective of fairness.

The question of the political feasibility of a funding mechanism is difficult to deal with without reference to a specific case. The importance of this viewpoint is of course bound up with public opinion or the extent to which a given social group or lobby is able to make itself heard, but it also relates to the type of decision-making process involved. In this connection, it is in some cases easier to persuade a government department to change a regulation than to get an assembly of elected representatives to pass a law or to obtain public assent by means of a referendum. The question of political feasibility is probably influenced by the more or less public and tangible nature of the funding system and the related decision-making machinery.

2.2.2. *General consistency of the funding system*

The consistency of the funding system can be examined from two angles: the internal consistency involves the balance between the objectives assigned to the transport system or the responsibilities assigned to one of the economic agents and the corresponding funding resources, whereas external consistency relates to the effects of the funding system in terms of the national or local policy objectives.

From the standpoint of internal consistency, a highly decentralised organisation of the sector would conflict with a non-differentiated levy at national level. Similarly, to assign definite social objectives to urban public transport presupposes that the corresponding resource is not derived from a regressive form of taxation.

External consistency requires that the funding mechanism should contribute to the achievement of more general external objectives or at least should not run counter to such objectives. In terms of tax policy, for example, an indirect tax would not be introduced if the national objective is to increase the proportion of direct taxes, or the tax burden on enterprises would not be increased if the policy is to reduce such taxes.

2.2.3 *Level of the resource*

The question here concerns whether the system envisaged will make it possible to cover the foreseeable funding requirements. In order to answer this question it is necessary to examine first the revenue yielded by the method of levying the tax, which depends on the basis of assessment, the rate and possibly the cost of

collecting the tax, and secondly, the requirements relevant to the field in which it is to be used. For example, if a renewal fund is to be established, it will first be necessary to estimate the annual requirements in this connection and then select a system that will provide an adequate level.

2.2.4 Stability of the resource

The stability of the resource is an important criterion which has to be assessed in relation to the trend in transport costs. The question of funding is likely to come up again if the foreseeable growth of the revenue is less than the rate of inflation or the increase in production costs.

These problems are difficult to deal with in principle because the trend in certain revenues often depends on external factors which the local authorities, and the transport authorities in particular, can do little about, a point that may be illustrated by the situations in Germany and France. In Germany, the investment fund is built up by means of a tax on consumption of oil products and such consumption was increasing for many years. The energy crisis in the mid-1970s led to a change in the types of energy used, a fall in consumption and lower revenue from this tax. In order to maintain the investment fund at the previous level, the federal government had to call on its general budget. In France, the local authorities receive the revenue from a levy on the wage bill with a particular ceiling (which means that the revenue increases faster than the average wage since the small wage-earners carry more weight in the determination of the revenue and their wages increase faster than the others). Over the past two years, in some of the towns located in areas affected by the economic crisis, the revenue from the tax at a constant rate has increased at a slower pace than the rise in the cost of living.

Such considerations would therefore indicate the exclusion of those taxes producing revenue that may be subject to unduly sudden changes (no tax is perfectly stable) and cannot really be controlled, or at least to assign such taxes a small role in the overall volume of resources available. Such may be the case for taxes based on certain types of consumption or activities which are very sensitive to changes in the general economic climate (motor vehicle purchases, real estate transactions, new building, and so on).

2.2.5 Flexibility

In this context this term refers to the capacity of the system for upwards or downwards adjustment to the funding requirements, a criterion that might be met by means of the scope for easily revising the rate of tax to bring the revenue into line with requirements. Similarly there would be the possibility of placing in reserve for the following year any unused funds. Lastly, the earmarking of expenditure for overly specific and restricted categories would make resource management too rigid and call for machinery to supervise use of the resource, which might well mean that no productive use was made of the revenue while other funding requirements would not be met. However, certain objectives may be met by making a selection from among the ways in which the revenue might be allocated. For example, from 1974 to 1982 the revenue from the wage bill contribution to transport ("versement-transport") was to be used first of all as compensation for the reduced fares for wage-earners, then to finance investment in specific public transport projects and, lastly, to finance service improvement, reorganisation or extension. The aim was therefore to encourage the local authorities to develop their urban transport network while ensuring that the revenue was not used to finance a pre-existing structural deficit in the operation of the system.

2.2.6 Fairness of the levy

A levy may be regarded as fair if, on the one hand, the economic agent concerned actually draws a direct or indirect benefit from the transport activity or else generates the costs borne by this activity and if, on the other hand, the levy is in proportion to these benefits or costs and to the capacity to pay of the economic agent in question. This involves a problem that is often inadequately resolved in economic theory, namely the monetary valuation of externalities. The complexity and interrelationships of the various factors are such that it is difficult to isolate the effects and beneficiaries and to assign the cause to a single factor. As regards transport operations, it has been ascertained that certain developments occur at the same time, so the transport sector tends to be assigned the role of catalyst, while by no means being made responsible for an economic or urban process. Given this complexity, there might be a tendency to regard some benefits as general and to adopt a levy on a particular category of economic agent which makes no distinction among them and so could prove unfair to some.

It would therefore be more appropriate for there to be a number of different rates for the levy, and some studies recommend that it be based on costs since these are more readily identified than benefits. The costs generated by certain activities and borne by public transport do in fact vary according to the type of activity, its

location and the time of day. A levy based on these costs might have a beneficial effect on the behaviour of the economic agents in question and prompt them to reduce some of the negative effects of their activity. While attractive in theory, however, such a solution might be difficult to put into practice since it would call for machinery capable of discerning differences of rates in the levy to be applied to a given category – for example, between motorists or between enterprises – without entailing cumbersome control procedures.

Where prompting changes in behaviour is concerned, it has to be ensured that the mechanism avoids perverse effects (threshold or border effects) whereby some economic agents would be induced to carry out their activities in other geographical sectors rather than adopt the new patterns of behaviour. It would be necessary, for example, to urge motorists to postpone their departure for shopping, or to get firms to select a location close to the transport network rather than outside the area served, a choice that depends on the quality of the transport network, the attractiveness of the area concerned in terms of other urban services and equipment and the amount of the levy imposed in relation to other contributions and costs related to carrying out the activity in question.

The redistributive effects of the levy also have a bearing on the criterion of fairness. The introduction of a new levy involves the transfer of expenditure under the general budget towards the revenue from this new source and also involves discrimination among taxpayers (between users and non-users of cars or between those who own land and those who do not, and so on). It is therefore necessary to know whether, as compared with the previous method of funding, the levy is consistent with the existing concepts of fair taxation in the country in question. For example, some may prefer a levy based on income rather than one on consumption which is inelastic in relation to income since the latter would be highly regressive.

Where economic development is concerned, some countries would wish to promote activities which create jobs directly and would not therefore make the wage bill the basis of assessment or would avoid introducing taxes which have a negative effect on particular sectors (building, public works, motor manufacturing, etc.). The form of the levy may give rise to perverse effects as regards the development of particular urban areas or new activities. In order to resolve this problem, those responsible for urban policy may exempt some categories of agent on the basis of their location (in France, for example, firms which are set up within new-town type urban development areas do not have to pay the transport levy).

2.2.7 Single or multiple nature of the resources allocated

This question has to be seen in relation to the yield (volume and stability) from the resources in question and the degree of complexity of the process of collecting and administering the funds. For the sake of simplicity of administration, a single resource is to be preferred, especially if the corresponding volume of funds is substantial and they can be allocated to a sufficiently wide range of purposes. If the yield is uncertain and cannot be readily forecast, one may be tempted to opt for several resources so that the overall volume of available resources can be managed more efficiently. In this case, the system would probably be easier to manage if it were organised around one main resource, the others being included as options which can be quickly and easily mobilised in order to respond to exceptional situations.

3. Efforts to ascertain an optimum for urban transport: questions relevant to sharing the funding, the management of services and institutional organisation of the sector

Most of the authorities responsible for urban public transport services and their financing would now seem to agree that control of the funding requirements will be a major factor governing the future development of such services, a consensus that no doubt reflects the view that, while an increasing proportion of public finance has been mobilised for this purpose over the past ten years, the time has come to stabilize their share in total funds or even reduce it in some countries.

Most countries regard such stabilization or reduction of subsidies as imperative, the firm resolve of the public authorities in this connection being directly determined by the constraints imposed on official funds as a result of the international economic climate. The policymakers may also implicitly consider that public transport now has at least a “fair share” of official funds in the light of its value from an economic and social standpoint. In these circumstances, concern with ensuring the maintenance of the general equilibria in the country means that the public transport sector is required to establish a financial balance in the context of a voluntarily limited volume of funds and, in the effort to achieve this balance, it would seem that a number of questions are again arising in connection with the management and institutional organisation of the sector:

3.1. *Is it not necessary to increase the share of the financing borne by those who benefit directly from the service?*

Part 1 showed that the public authorities in all countries provide subsidies to ensure a financial balance in the operation of the networks.

Until recent years the authorities seem to have accepted this situation as inevitable and virtually beyond their control. Consideration of ways of increasing the direct resources of the networks is in fact quite recent, one possibility examined being an increase in fare revenues and another the generation of new revenues by diversifying the services offered.

Social objectives have clearly been assigned to the pricing of urban public transport in many countries, as evidenced by the existence of fare compensation in connection with preferential rates. At least in some countries and at certain periods this approach has been given additional weight through public service price control policies which have precluded trends that would have been more consistent with the trend in operating costs. It is also possible that the existence of other resources, more particularly from the public sector, has prompted the authorities to abandon this question in favour of trying to maximize the revenues from these other resources. The outcome has been that the economic and commercial role of fares has doubtless not been studied sufficiently. There is some apprehension about making unduly radical changes in fare levels, since an increase might result in loss of patronage and perhaps a larger deficit, while a reduction might have a comparable effect on the balance sheet. Both Belgium and the Netherlands recently had fare increases that seem to confirm such fears prompting them to cut-back further planned rises owing to falls in patronage. The fact that some of these increases occurred at a time when the cost of buying and using private cars was falling may perhaps call into question the theory that users are not very sensitive to the cost of transport and that travel by private car and by public transport are two separate markets which do not influence each other.

While it can reasonably be said that these experiences show that fare increases do not necessarily provide a means of stabilizing the official funding requirement, one should perhaps not conclude once and for all that fares are an unsuitable instrument for this type of objective. More particularly, it might be more effective to change the fares structure rather than the level. University studies do exist and some experiments have been carried out (fare differentiation according to load factor or the introduction of passes for particular groups of passengers). The question arises, however, as to whether the conditions for innovations in this connection have now become more favourable: the slower pace of inflation and the need for more stringent management should prompt governments to give greater freedom to public transport in setting fares. As regards technology, the introduction of magnetic media and microprocessors in fares systems should open new avenues for differentiation in fares. However, the experience in related (parking) or other (television) sectors shows that changes in the technology used for charging systems is often associated with radical changes in forms of management. For example, the introduction of parking metres in streets created both a new instrument for the public authorities' traffic and travel policies and offered the public a new service that was profitable for the community. Is it not conceivable that the new fares media in public transport will provide the means of more easily introducing new products in terms of fares? Furthermore, by more clearly identifying the services supplied and those who benefit, do they not provide a means of involving new people in the supply of funds (employers on the basis of the recorded use of the network by their employees, commercial or leisure centres, airports etc. on the basis of the use of the transport by their clientele)? If experiments are encouraged and the results are published, greater knowledge can be built up in this connection which will have more far-reaching consequences.

Consideration is now being given, moreover, to the scope for the networks to diversify their markets in terms of products and customers. The range of products can be broadened by a network which sells to an enterprise transport facilities for its employees, occasional group transport to a school or association, its know-how to other enterprises, or even advertising space. But one can go even further, as illustrated in the United States or Canada where many infrastructure projects receive private funding from enterprises or businesses which derive some economic benefit from the implementation of the project. This funding method does not necessarily involve money transactions, since it may take the form for example of physical improvements or structures built by private enterprises and made available to the public free of charge. It may also involve the provision of land at reduced prices by some landowners in return for changes in the provisions governing land use. This funding method is known as "value capture" (appropriation of capital gains) in North America. In France it is very often used for local service roads within special joint development zones. Regulations have been laid down for this procedure and make provision for facilities belonging to the public or private developer to be ceded to the community.

3.2. *Control of public funding largely involves the control of operating expenditure: By what means?*

It would seem that this question has received a great deal of attention in recent years. In a large number of countries, physical means of stepping up external productivity of the networks have been promoted and supported by official funds. They range from roadworks to the introduction of electronic devices, and the results have been assessed to a greater or lesser degree. In France these measures come under a multi-annual programme and are covered by “productivity contracts” concluded case-by-case between the government and local authorities. They relate to the environment in which the services are produced but not to the actual conditions of production where the solutions called for are of a different nature.

Approaches differ as regards the latter point and unquestionably depend on the type of organisation existing in the country under consideration. In countries where transport undertakings are public enterprises, as long as recourse to official support was exceptional and marginal it was conceivable for the deficit to be offset automatically after it had been recorded. These countries are now tending to make the allocation of subsidies dependent on the achievement of objectives in terms of coverage of expenditure by revenues. Such is the case in a number of Canadian provinces (Quebec, Ontario, Saskatchewan and British Columbia) and in certain towns in Switzerland. In Belgium, where services are provided by public undertakings funded by central government, a plan to improve the situation over a number of years has been implemented since 1983. Its objectives were initially purely financial, more particularly to reduce the need for public funding by 1 per cent per year. In addition to an automatic rise in fare levels, the plan provided for stringent control of trends in expenditure, a reduction in manning without lay-offs, and the establishment of income and expenditure forecasts with a view to ascertaining the amount of the government subsidy at the outset. The results for the first three years in which this plan has been implemented would seem to indicate that the fares policy has been less successful than the approach to costs. In the Netherlands too the aim is to establish a system where the grant of official support is no longer automatic.

In France, outside the Paris region the services are largely provided by private undertakings and, under the agreements by which they are associated with the organising authorities – local public authorities –, some of their income depends on the results in managing the network. The agreements cover a limited period of five years and, in recent years, the terms have gradually assigned greater responsibility to the undertakings as regards commercial risk (revenues) and industrial risks (operating costs).

In Spain, the needs of financing and deficit control have led to new kinds of arrangements between the public authorities and the service companies so as to control costs. The notion of risks as applied in the private sector is being replaced by agreements between the authorities and the companies, where a cost per kilometre is established, and linked to a guarantee of a minimum level of profitability. For Madrid and Barcelona, with the networks being run by large public companies the contract programme model has been selected, which over a time-span of 4 years, clarifies the commitments and objectives for demand, prices, costs and investment.

Lastly, in the United Kingdom, outside London the method of managing the sector has changed radically so as to give a decisive role to market mechanisms. Public funding in this system is to be limited to services which would not be provided in a free market context and after open competition among the undertakings. The need for publicly financed services will be assessed by local authorities; they will put those services out to competitive tender and contracts to run them will be awarded to whichever operator offers the best value for money. This change helps local authorities to ensure that subsidies are directed only where they are most needed. As well as improving local authority decision-making it is expected to lead to increases in productivity and efficiency, which will enable official subsidies to be reduced.

3.3. *Can the private sector be involved in the financing of investment in public transport?*

The current experience with the fixed-link across the Channel has shown that projects of general interest can be carried out – in this case a major international transport project – without direct public funding. In a number of countries the use of private funds for transport infrastructures is sought or encouraged, but such funding relates more specifically to roads than to urban public transport in the industrialised countries. Over and above the policy preferences of the authorities concerned, which may prompt them to select or reject these categories of funding arrangements on principle, the question of the value of such procedures is difficult to resolve and might well call for specific research in the future. On the face of it, it is reasonable to assume that private funding, which has to show a return, can only result in an increase in costs, whereas the quality of service and management remain the same. That being the case, what advantage can the community expect to derive from such funding?

- First, the transfer to the private sector of all or some of the risks associated with the project, otherwise it would be a conventional borrowing arrangement which simply used private channels for raising the money.
- Secondly, a more stringent management of the financial implications of the project which are related to the risks accepted by the private sector. It may be assumed, for example, that the transfer of the construction-related or commercial risks to the private sector will mean that this sector tries to cut the total cost or the operating cost.

However, very few major projects for urban public transport infrastructures are financed entirely in this way, which shows how difficult it is to adopt this approach in practice owing to:

- The lack of experience and know-how in this connection in both the public and private sectors;
- The problems involved in identifying and assessing the risks associated with a project. Which risks can the public authority transfer to the private sector and which are solely its own responsibility? What return is the public authority prepared to offer to the private sector to assume these risks?
- The fact that private investors do not find transport operations very attractive. Some public funding often remains necessary in view of the existing level of fares. Even in this case, the particular profile of revenues (zero at the beginning – although outgoings are very high – then a slow rise but over a long period) may well result in small returns, over an initial period at any rate, and in repayment over a long term. Introduction of appropriate financial instruments (zero coupon bonds, for example) might make such operations somewhat more attractive.
- The aim of most countries to avoid the development of a dual network for users or, in other words, to maintain equivalent conditions for the use of the infrastructure by the whole population, irrespective of the method of funding.
- The uncertainty created by the potential co-existence of two networks if the commercial risk in connection with the operation of the infrastructure is transferred to a private funder. Is it possible to separate sufficiently the infrastructure in question from the rest of the network in order to identify clearly the commercial responsibilities? Is potential competition between public and private infrastructures acceptable? Might not such competition reduce the room to manoeuvre of both the public and private bodies responsible?
- Again in the case of the transfer of the commercial risk, there is the question of the legitimacy and capacity of the private sector to obtain indirect benefits from the infrastructure.

3.4. *Can the supply of a good such as urban public transport services be left entirely to market mechanisms and private undertakings?*

The need to curb the expenditure and increase the productivity of public transport undertakings and, more generally, the local public services, has prompted a number of countries to review the method of producing such services. More particularly, some of them have asked whether improvements might not be achieved by recourse to the private sector on terms and to an extent that would have to be determined but which might take the following forms:

- Supply of specific operational activities under contract (for example, maintenance and servicing of vehicles);
- Supplies of transport services according to specifications;
- Management contract for the transport network;
- Turnkey operations, primarily for heavy infrastructure.

The difficulty of any clear-cut reply to this question is illustrated by the diversity of practices in the different countries, a diversity that can be summed up for the sake of simplicity in three approaches by the authorities:

- To produce the services;
- To arrange for them to be produced;
- To let them be produced by providing the conditions for open competition.

None of these approaches is found entirely on its own, but the various countries can be put under one of the three headings: the approach in Germany, the Netherlands and Switzerland is similar to the first where the public authorities produce the transport services themselves under a State monopoly or through companies belonging to them; the second is found in Denmark, France (outside the Paris region), and Belgium (for most of the rural bus transport), Spain (for most average sized and small towns). Here the private companies are

under contract to the public authorities to provide the transport services; lastly, the third approach is found in the United Kingdom outside London where the services are provided on a commercial basis, the competitive conditions being created by the privatisation of the main bus undertaking (NBC) as a series of separate companies and the removal of quantity (but not quality) controls from the bus market.

The debate surrounding these three approaches is complicated by the emotional overtones and preferences. The real contrasts are accompanied by symbolic contrasts between monopoly and freedom, control and natural self-regulation, the out-moded and the modern, law of the strongest and solidarity, private interest and public interest, and so on. It is particularly noteworthy, moreover, that the arguments are usually *against* a system rather than in favour of one, thus illustrating the conflictual nature of the debate.

Wholly public production would be more costly owing to the absence of competition associated with a government monopoly: labour would be less productive because protected; the decisions would be taken on the basis of criteria that are not always consistent with the requirements of sound economic management and would result in wastage. On the other hand, there is strong criticism of wholly private production: the objectives of the private undertakings would differ in nature from those of the public authorities; the decisions taken on the basis of the principal criterion of profit would then be highly unlikely to be consistent with those taken on the basis of general interest in many fields. It was in fact the establishment of these differences that gradually led to the exclusion of the private sector in the 1960s and 70s in countries such as Canada and the Netherlands and to the transformation of the relationships between the private and public sectors in France. Criticism is likewise levelled at the mixed system where provision of the service is sub-contracted to the private sector while the general decisions concerning levels of services or fares are taken by the public authorities. Does not this system have all the drawbacks rather than the advantages of the other two systems? Can competition provide the benefits when it is only really effective during the short period prior to the award of contracts? Would not this approach be conducive to the non-differentiation of responsibilities? Does the private undertaking really have room to manoeuvre and, conversely, does the public sector have the means of exercising real control over the quality of services?

As already indicated, none of these approaches exists entirely on its own, and aspects of two or three of them are probably used in each case. It would seem that the choice between one or the other results from more general theoretical options. The greater the importance attached to externalities, the more one will be tempted to assert that the general interest cannot be the result of the sum of private interests and the less one will have confidence in the market to produce public transport services. The approach whereby the public authority produces services itself gives no role to the market. Where the public authority arranges for the services to be produced, it retains the monopoly on decision-taking and allows the undertakings to compete for the right to implement this decision. Where the public authority leaves the services to be produced it also leaves the decision-taking and provision of the services to the market on the assumption that the latter will be able to cater for the individual requirements, the sum of which will coincide with the general interest.

Is it possible to ascertain the optimum mix of these three approaches in order to cope with a specific problem? The difficulty of inter-country comparisons should not be seen as an obstacle to carrying out international studies in order to provide some objective data in response to this question.

REFERENCE MATERIAL

This study is essentially based on replies by the various countries to the questionnaire drawn up by the Working Group and from the following countries in particular:

- Australia
- Belgium
- Canada
- Denmark
- France
- Germany
- Greece
- Ireland
- Netherlands
- Spain
- Sweden
- Switzerland
- United Kingdom
- United States.

The following documents supplemented this source and some were supplied by the countries themselves:

1. "Report on the financing of urban public transport", [CM(72)13 Revised], ECMT, December 1972.
2. "Changing patterns of urban travel", Webster, Bly *et al.*, ECMT, 1985.
3. Swedish local and regional public transport in 10-20 years: Economic prerequisites and financing methods – Swedish Transport Research Board – June 1985.
4. State options for transit financing – US Department of Transportation – December 1984.
5. Actes du colloque international sur le financement des transports urbains – Published by LET – Lyons, September 1984 and, more particularly, the following:
 - Y. AMSLER: Liens entre d'organisation des transports en commun et leur financement par la comparaison de quelques cas de grandes métropoles.
 - Ch. REYNAUD: Rapport de l'atelier n° 2 – Aspects institutionnels de financement.
 - L. KEEFER: Innovative financing of urban transport in the United States.
 - J. VIVIER: Contributions des bénéficiaires des transports collectifs urbains au financement des dépenses d'exploitation et d'investissement.
 - J.P. BALLADUR: Endettement et autofinancement dans le cas des investissements de transport en milieu urbain.
 - R. BIZOUARD: Maitrise du coût du transport urbain – Un nouveau type de rapport entre une autorité organisatrice et son exploitant.
 - Ph. BLY,
 - RH. OLDFIELD: Where are public transport subsidies going?
6. Revue Métropolis n° 72 – 1^{er} trimestre 1986. "Finances locales: la crise chronique" and, more particularly, the following:
 - R. PRUD'HOMME: "Les finances locales dans le monde – Diversité et similitudes"
 - Ph. MEUNIER: "Le marché des 'Municipal Bonds' aux Etats-Unis"
 - R. VON LOWIS: "Emprunts et trésorerie".
7. "Innovative transit financing", W.G. LAMBERT and M.R. WRIGHT. Submission to the 4th World Conference on Transport Research, Vancouver, May 1986.
8. "Le financement des métros, en particulier par le partage des bénéfices". Rapport du Comité International des métros. Sous-comité pour les questions financières et commerciales – UITP Revue 2/1986.
9. Private financing of public transport. Open Conference of the International Mass Transit Association. Paris, 16th-17th October, 1986.

NOTES

1. Thus compensation, in fares or otherwise, paid by public authorities through public service obligations can be shown either as revenues or as subsidies. In the same way, depreciation and interest charges can be borne by the enterprise or by the public authorities and this is done in various ways in the different countries.
2. Revue Métropolis No. 72. "Finances locales". Some of the figures and analyses given in this section have been taken from this journal and from the article by Professor Prudhomme in particular.

DECLARATION OF INTEREST

I, the undersigned, declare that I have no financial or other interest in any of the companies or organizations mentioned in this report.

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THE DIFFERENT LEVELS

Country	Responsibility for organisation	Responsibility for fare structures	Preferential fare structures
Denmark	<ul style="list-style-type: none"> ● Political authority¹ associating the County and Municipality. ● Operation: policy of contracts with transport companies. <p>1. COMMON MUNICIPAL TRAFFIC COMPANIES with Greater Copenhagen Council (for COPENHAGEN)</p>	<ul style="list-style-type: none"> ● Political authority 	
Germany	<ul style="list-style-type: none"> ● Local authority 	<ul style="list-style-type: none"> ● Local authority 	<ul style="list-style-type: none"> ● Preferential fares for students with compensation in subsidies from the LANDER ● Legal obligation to carry disabled free of charge. The loss of income is covered by the LANDER and CENTRAL GOVERNMENT
Sweden	<ul style="list-style-type: none"> ● Political authority¹ at county level which co-ordinates public transport. The municipalities are free to decide on services and on the level of subsidies that they wish to pay. ● Operation: policy of contracts. <p>1. COUNTY TRANSPORT Corporation.</p>	<ul style="list-style-type: none"> ● Political authority 	<ul style="list-style-type: none"> ● 1/2 fare for pupils and the elderly. ● Central government contribution for the elderly.
Switzerland (CH)	<ul style="list-style-type: none"> ● Mainly the communes and groups of communes 	<ul style="list-style-type: none"> ● Mainly the communes and groups of communes 	<ul style="list-style-type: none"> ● Part of the cost of ecological passes is assumed by the municipalities in which they are available. Preferential fares for school-children and the elderly.
Netherlands	<ul style="list-style-type: none"> ● Local organisation but under government financial control. 	<ul style="list-style-type: none"> ● Central government. 	<p>The Ministry of Social Affairs pays for the reductions for the elderly.</p>

OFFICIAL FUNDING

Funding of operating deficits	Funding of investment	Source of funds	Terms on which subsidies are obtained
<ul style="list-style-type: none"> COUNTIES and MUNICIPALITIES For Copenhagen, the central government provides compensation for the rail network 	IDEM	<ul style="list-style-type: none"> Own funds (taxable income) 	
<ul style="list-style-type: none"> Local authority LANDER and CENTRAL GOVERNMENT by tax exemptions 	<ul style="list-style-type: none"> CENTRAL GOVERNMENT LANDER LOCAL GOVERNMENT 	<ul style="list-style-type: none"> Tax on motor fuels for investment is collected by central government. Own funds for the LANDER and municipality. Operation: <ul style="list-style-type: none"> Local government covers deficit, either by benefits in kind (electricity, etc.) or with income from municipal services (water, etc.). 	<ul style="list-style-type: none"> Percentage of the cost of the investment in the case of subsidies from the Central and Lander governments (depending on the type of investment).
<ul style="list-style-type: none"> County and municipality Central government (small proportion). 	<ul style="list-style-type: none"> Central government County Municipality 	<ul style="list-style-type: none"> For counties and municipalities: extension of income tax (local taxes). 	
<ul style="list-style-type: none"> Communes or groups of communes are the main funder. Canton: support based on the importance of the network at cantonal level Central government: support solely for "general traffic" times 	<ul style="list-style-type: none"> Municipalities are the main funder. Canton: support based on the importance of the lines at cantonal level and funding of cantonal roads some sections of which may be on communal territory. Central government: support solely for "general traffic" lines, some of which may serve built-up areas, and funding of national roads, some sections of which may be on communal territory. 	<ul style="list-style-type: none"> Equity capital of companies for the non-subsidised part 	<ul style="list-style-type: none"> In most towns grants and subsidies are allocated only if carriers show a satisfactory revenue/ operating cost ratio and their budget is approved.
<p>The CENTRAL GOVERNMENT covers all deficits.</p>	<p>The CENTRAL GOVERNMENT provides grants for 80 per cent.</p>		<ul style="list-style-type: none"> The Ministry of Transport must approve the budget.

Country	Responsibility for organisation	Responsibility for fare structures	Preferential fare structures
United Kingdom	<i>LONDON</i>	Overall objectives set by Dept. of Transport: actual fares set by BR and LRT.	Free travel for elderly and disabled is available on LRT, funded by local authorities. Some reduced fares are also available on BR.
	<i>Outside LONDON</i> Most bus services are provided commercially. Local Authorities can purchase other socially necessary services.	The bus operators. For subsidised rail the fares are set by British Rail and the PTE.	Local Authorities can subsidise fares for old, disabled passengers and children.
Canada	<ul style="list-style-type: none"> • The Provinces are responsible for the organisation in general. • They delegate all or some of the responsibility to municipalities for operation. 	<ul style="list-style-type: none"> • Local (Municipal). 	<ul style="list-style-type: none"> • Local decisions concerning the blind, elderly, invalids, disabled, students, and so on. Compensation by the municipalities.
United States	<ul style="list-style-type: none"> • Local level: municipalities, districts, counties. 	The authority responsible for organisation.	The Federal Govt. requires that reduction of at least 50 per cent be granted to the elderly or handicapped. It does not cover the relevant costs
France	<i>Paris</i> STP: grouping of the central government and the départements concerned. The central government has the main say.	Syndicat des Transports Parisiens	The elderly students, pupils, employees. The municipalities may distribute travel passes that they buy
	<i>Provinces</i> The commune or groups of communes	Increase in fares subject to the price controls at national level	Preferential fares for students, the elderly, etc. are the responsibility of the municipalities which provide subsidies in return

Funding of operating deficits	Funding of investment	Source of funds	Terms on which subsidies are obtained
Central Government (with a contribution from London ratepayers for LRT).	As for operating deficit, but net of any internal resources generated and of any other contributions.	Govt. borrowing and general taxation plus for LRT the contribution from London ratepayers which is obtained from a property tax.	LRT: Grant level is determined by reference to an Annual Budget, derived from Corporate Plan. Rules for application set by Govt. BR: Obligation to operate under EC Reg 1191/69 for which compensation (subsidy) payable on the basis of annual budget.
None for bus operations. PTE's for rail and metro.	Local Authority may provide some infrastructure (e.g. bus stations) for bus and can fund rail and metro Central Govt. grant is available in exceptional circumstances.	Local property taxes, with Central Govt. contribution in most cases.	Bus support can only be paid following competitive tender. Rail support set by agreement between local Authority & BR. The total amount which can be spent by the PTE's is controlled by Govt. at present.
<ul style="list-style-type: none"> • Provinces and municipalities. • Federal government by exemptions from tax on motor fuels, etc. 	<ul style="list-style-type: none"> • Provinces and municipalities. • Federal government, mainly by exemption from purchase tax. 	<ul style="list-style-type: none"> • General budget or earmarked taxes, depending on the State or town. The Federal Government has a general support fund financed from the budget and a special investment fund which is itself financed by 1 per cent of the tax on motor fuel 	<ul style="list-style-type: none"> • Satisfy efficiency criteria: satisfactory revenue/operating cost ratio. • Allocation by systems. • Based on % of cost price.
<ul style="list-style-type: none"> • Municipality or responsible regional body • Some States • Federal government (much less since 1982) 	<ul style="list-style-type: none"> • Federal government • State subsidies • Topped up by local authorities 	<ul style="list-style-type: none"> • General budget or earmarked taxes, depending on the State or town. The Federal Government has a general support fund financed from the budget and a special investment fund which is itself financed by 1 per cent of the tax on motor fuel 	Negotiated case by case + complex parametric formulae
STP which obtains its resources from the central government = 42 per cent Employees = 39 per cent Local authorities = 19 per cent (in 1985).	Central government and region equally for infrastructures. Own funds and borrowing by undertakings for equipment	Own funds for the municipalities — taxes on wages for the transport levy.	
Organising authority — employers by means of the transport levy.	Municipality — central government — transport levy	Own funds for the municipalities — taxes on wages for the transport levy	Preparation of development plan for the central government

Country	Responsibility for organisation	Responsibility for fare structures	Preferential fare structures
Ireland	<p>CIE (The National transport company)</p> <ul style="list-style-type: none"> With the approval of central government 	<p>CIE with government approval</p>	<p>Free travel for the elderly: paid from social welfare budget</p>
Spain	<p>Commune or Grouping of communes (Madrid)</p>	<p>Organising authorities (Catalonia: with authorisation of provincial government). Limits due to State policy on prices.</p>	<p>For the elderly, and students Municipal responsibility. In some cases subsidies from the provincial government to the Communes (Catalonia)</p>

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Funding of operating deficits	Funding of investment	Source of funds	Terms on which subsidies are obtained
Central Government	Central government, companies own sources EIB loans	CIE's capital allocation is fixed by government and normally financed by depreciation exchequer advances and long term borrowings	The budget is approved by the government
Organising authorities The State: subsidy fund for towns with more than 100 000 inhabitants and the Barcelona and Madrid undergrounds	Municipality For undergrounds the provincial and national government. Firms: autofinancing loans for materials.	Public funds; taxes	Agreements between organising authorities and the firms For State funds: control of the accounts. For Madrid and Barcelona: contract programme for the undergrounds.

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METHODS USED BY FUNDERS

1 – Operation

Country	Ordinary funder	Extraordinary funder	Support provided by the extraordinary funder	Rules governing allocation
Germany	Communes	LANDER (Government in the case of national undertaking)	Compensation for school fares	50% of the difference between the actual revenue and theoretical revenue
		LANDER (Government in the case of national undertaking)	Compensation for free transport for the disabled	Rate based on the proportion of disabled people entitled to free travel in the total population, the figure being stepped by 20 per cent
		LANDER 1/3 Central government 2/3	Reduction in company turnover tax	50 per cent tax reduction
		LANDER	Exemption from the tax on motor vehicles	
		Federal government	Exemption from the tax or taxes on motor fuels	From 1971 to 1983
		LANDER	Participation in "Verkehrsverbunde" ("transport communities")	The "Verkehrsverbunde" ("transport communities") are co-ordinating and planning bodies for a metropolitan area
		Federal government	Through the DB's participation in "Verkehrsverbunde"	
		Other industrial services	Allocation of some of the profits made on these services	Involving some 60 ¢ of communal undertakings (water, gas, electricity)
Canada	Municipalities	Provinces	Operating subsidy	Rules differ according to the Province: – divided 50-50 in Manitoba (which therefore becomes an ordinary funder) – by inhabitant in 2 Provinces – based on a revenue/expenditure objective in 4 Provinces
			Support for the disabled transport	Percentage of deficit per disabled person
		Federal government	Studies, research, demonstrations	Variable rate according to Province
			Exemption from tax on motor fuel	Depends on the municipalities

Annex 2 (Cont'd)

Country	Ordinary funder	Extraordinary funder	Support provided by the extraordinary funder	Rules governing allocation
Denmark				
- COPENHAGEN	Greater Copenhagen Council			Total funding requirements are broken down among 5 counties on the basis of the amount of their tax revenue. The central government provides compensation to the GCC for assuming responsibility to the suburban railways
- Rest of country	Communes and Counties			
Sweden	Association of the Communes and Counties			Deficit shared (usually 50-50) + breakdown among the communes on the basis of the level of services
Belgium	Central government			A plan is in hand to improve the situation over the period 1983-1988. Main aim: to reduce by 1% each year the government subsidies to cover the operating deficits of the public transport companies and for each company to submit balanced income and expenditure forecasts. The objectives had been achieved some two-thirds of the way through the period covered by the plan.
United Kingdom	Central Government Local Authorities	Central Government Local Authorities	Fuel Duty rebate Reduced or zero fares for old, disabled and children	Full repayment of fuel duty paid by local bus services Operator should be no better or worse off as a result of the concession.
Greece	Undertakings	Central government	Compensation for social fares	Deficits are made up by borrowing
Australia	State government			
United States	Districts or Counties	State government Federal government	Experiments - demonstrations	Depends on the State concerned - very variable
Switzerland	Commune	Canton or Confederation	Support for operation or contribution to offset deficit	Depending on the cantonal or federal interest of a line or operation

Italy	Commune	Central government		The commune has the authority to grant franchise. The region uses an incentive mechanism in reallocating the funds assigned to it by the central government which is the main funder
Netherlands		Central government		
France				
- Paris region	Syndicat des Transports Parisiens	Central government	For pilot projects, experiments, etc.	The central government is in part an ordinary funder in the Paris region as the RATP is a national undertaking and the State participates in the STP
- Provinces	Organising authorities	Central government		
Ireland		Central government		
Spain	Local authorities	The State	Deficit on the underground: Madrid, Barcelona (though local independent authorities participate also)	<ul style="list-style-type: none"> • Agreement between local authorities and the companies (whether public or private). • 4 year contract-programme for Madrid and Barcelona metros. • State control of the accounts for the deficit on Urban Transport in municipalities of more than 100 000 people.

METHODS USED BY FUNDERS

2 – Investment

Country	Ordinary funder	Extraordinary funder	Support provided by the extraordinary funder	Rules governing allocation
Germany				
<i>Type of investment</i>	Federal government			
Federal railway undertaking				
Large-scale transport infrastructure projects	Communes	Federal government	60 per cent of cost (75 per cent in peripheral areas)	– Criterion of size (+ DM 200 000) – Criterion of type (no rolling stock)
		LANDER (opt)	Supplement variable according to the LANDER	(opt) size of project
Rolling stock and all other investment	Communes	LANDER (opt)	Percentage of cost price – variable according to the lander	(opt) size of project
Canada				
<i>All types of investment:</i>	Authority delegated by the Province to districts or groups of districts Exception: Province of British Columbia	Province	Percentage of cost – variable (from 10 to 100 per cent according to the Province)	
Rolling stock	"	Federal government	Exemption from purchase tax on rolling stock	Criterion of size (over 11 passengers)
Special subjects for research and development, demonstrations, energy conservation	"	Federal government	Amount of support determined on a case by case basis and depending on the special fund available	Specific approval criteria
Denmark				
Copenhagen	Greater Copenhagen Council (group of Districts and Counties of Greater Copenhagen)			All capital expenditure is covered immediately (no depreciation and no financial charges)
Sweden				
Road transport	Association of counties and districts			
Rail transport	Central government			<i>N.B.:</i> No interest in the case of road investment. Interest to be paid on rail and air investment

(KTB) 50 per cent of funding of experimental budget 3 to 4 MKr + grant of 40 MKr

Belgium	Infrastructure	Central government			
	Rolling stock	Public transport undertakings (own funds)	Central government	Special appropriations earmarked for the purchase of vehicles	Case by case
The central government assumes responsibility for some of the depreciation and interest payments.					
Greece	ATHENS	OAS: national undertaking	Central government	Public investment programme: subsidies + interest-free loans Renewal fund	
	Rest of country	KTEL: public undertakings under private law	Central government		State Loan
United Kingdom		Central Govt. Local Authorities	Central government	Fuel Duty rebate	Full repayment of fuel duty paid by local bus services
			Local Authorities	Reduced or zero fares for old, disabled and children	Operator should be no better or worse off as a result of the concession
		<i>London</i> Central Government and local ratepayers	-	-	Budget and grant agreed
		<i>Outside London</i> London Authorities	Central Government grant towards projects of more than local importance	Up to 50 per cent of cost	Satisfactory (i.e. positive) cost benefit analysis
Australia		State governments through transport agencies	Federal government (until 1980)		Funding of special projects since 1981, support to States, aggregated automatically and indexed to States the federal government being virtually an ordinary funder
United States		Districts or counties	State governments (opt) Federal government		14 State governments do not provide funds Federal support is confined to large-scale infrastructures
Switzerland	Road infrastructures	Communes	Canton Confederation	Subsidy "	For urban sections of cantonal roads (federal responsibilities), the subsidy is in proportion to the commune's funding capacity (equalisation)
	Rail investment	Communes	Cantons Confederation	Subsidy "	idem Support for lines of cantonal or, possibly, federal importance

Annex 3 (Cont'd)

Country	Ordinary funder	Extraordinary funder	Support provided by the extraordinary funder	Rules governing allocation
Italy				
All investment	Communes	Central government via the regions	Percentage of costs	It would seem that there is no ad hoc funding for the new transport systems (métros). The national fund just covers the rest
Netherlands	Central government			
France				
- Paris Region	Syndicat des Transports Parisiens (grouping of communes, départements + central government)	Central government	Subsidy as percentage of cost	
- Provinces	Transport organising authority (communes or groups of communes)	Central government	Subsidy negotiated in the framework of a contract Low-interest loans	
Ireland	Central government and transport company			
Spain	<i>Madrid:</i> Bus: grouping of communes Metro: State <i>Barcelona:</i> Bus: municipality Metro: State <i>Other:</i> Local communities	State	Loans with special interest rules (reductions of 3 per cent)	Madrid and Barcelona metro: contract-programme Others: Follow particular agreements

REPORT BY THE COMMITTEE FOR ROAD TRAFFIC, SIGNS AND SIGNALS TO THE COUNCIL OF MINISTERS

CM(88)3

At its session of 2nd December 1978, the Council of Ministers instructed the Committee for Road Traffic, Signs and Signals to:

- Ensure the implementation of the Vienna Conventions, the European Agreements and the Protocol on Road Markings, due regard being paid to such reservations as Member countries wished to formulate;
- Follow up the application and development of the rules contained in these international conventions and agreements in order to keep them always in line with present-day traffic needs whilst also safeguarding, and if possible strengthening, the co-ordination achieved at international level.

1. General remarks

Although the Committee has not submitted a report since the session of the Council of Ministers in November 1985, on the contrary, it has initiated work on major issues that call for analysis and discussion in greater depth, and has been participating in the updating of the 1968 Vienna Conventions on Road Traffic and Road Signs and Signals.

The above-mentioned work includes the analysis of the rules on right of way, the definition of light two-wheelers and measures to ensure the safety of their drivers, and the rights and obligations of pedestrians.

The Committee is also participating actively in the updating of the Vienna Convention, work that was initiated two years ago by the WP1 of the UN/ECE in Geneva. In particular, it has commented on the follow-up that the WP1 has given to the proposals for amendments to the Conventions put forward by the ECMT in recent years. It has also stated its position on the future structure of the Convention on Road Signs and Signals.

Despite the above-mentioned commitments, the Committee has completed its analysis of a number of other questions, the findings of which are set out below.

2. The application of Recommendations adopted since 1974

Since 1974 the Council of Ministers has adopted 39 Resolutions or Recommendations proposed by the Committee for Road Traffic, Signs and Signals. It therefore seemed appropriate to examine the extent to which these proposals have been implemented at national level.

It should be noted, moreover, that many of the Resolutions or Recommendations have been submitted to the UN/ECE as proposed amendments to the Vienna Conventions and the European agreements supplementing them, so the ECMT is an important source of international traffic law.

The table attached as Annex I to this report summarises the follow-up given to the above-mentioned Resolutions.

3. The application of domestic regulations to foreign drivers

Difficulties regularly arise when determining which legislation should apply to a vehicle that is being driven abroad: the legislation of the country in which the vehicle was registered or that of the country in which it is being driven?

Although several international conventions – the Paris Convention of 24th April 1926, the Geneva Convention of 19th September 1949 and the Vienna Convention of 8th November 1968 – all apply simultaneously in such a case, the following broad principles of international road traffic law may be set out:

- The manufacture and equipment of vehicles comes under the law of the country in which the vehicle was registered, but only vehicles that meet the minimum conditions set out in the relevant conventions are allowed to be driven abroad;
- Actual driving i.e. road-use, is subject to the law of the country in which the vehicle is being driven.

However, there still remain a number of specific questions that have given rise to different interpretations.

The Committee has examined these questions and its findings are set out in Annex II.

4. The use of traffic light signals

The 1968 Vienna Convention on Road Signs and Signals and the European Agreement supplementing it, contain several provisions concerning traffic light signals.

These provisions leave countries a fair amount of leeway as to how they interpret and implement them. Although the systems used in the ECMT Member countries comply with international rules, they differ widely.

A survey carried out by the Committee showed that disparities between national traffic light systems are spread fairly evenly among Member countries, so further harmonization hardly seems feasible in the short term.

The table attached as Annex III gives an overview of the various national systems in the ECMT.

This table should allow Member countries to take account of the systems that exist in other countries when they are selecting new domestic traffic light systems, thus ensuring that existing disparities do not widen.

5. Change of direction and obligation to allow other vehicles to pass

Drivers who are turning off the carriageway must, under Article 16.2 of the Convention on Road Traffic, allow oncoming vehicles on the carriageway they are about to leave, and cycles and mopeds moving on cycle tracks crossing the carriageway they are about to enter, to pass.

This rule of priority therefore prohibits drivers, when changing direction, to cut across the path of oncoming motor vehicles or cycles and mopeds moving on cycle tracks running alongside the carriageway.

However, application of this rule of priority becomes ambiguous in the following two cases:

- a) The road being used by the driver changing direction is divided up into a number of carriageways;
- b) The cycle track running alongside the carriageway being used by the driver changing direction curves away from that carriageway as it approaches an intersection with another road.

The Committee considers that the right-of-way in case (b) under 5.2. should be indicated by means of road signs.

In addition, the above-mentioned Article 16.2 should be amended so as to require the driver changing direction to yield right-of-way:

- to oncoming vehicles on the same road;
- any form of traffic moving on the other parts of the same road;

it being understood that the particular rules under Article 21 of the Convention, which govern the behaviour of drivers towards pedestrians, are maintained.

Annex IV of this report contains a proposed amendment to Article 16.2 of the Convention on Road Traffic.

6. Signs for tourist attractions

The introduction of signs for tourist attractions has been gathering pace and showing increasing diversity in recent years and may well result in the longer term in an unduly wide range of models and colours for such panels at international level.

With a view to the future homogeneous development of road signs for the purpose of tourism which can be understood by users in international traffic, the Committee has considered the possibility of providing a minimum set of common basic principles for such signs at international level.

The Committee's conclusions set out in Annex V are based on the joint definition of a set of essential principles for setting up and identifying signs for tourist attractions. The Committee considers moreover that, on the strength of closer collaboration between Member countries, it will subsequently be possible to provide a complete set of uniform rules in this connection.

These conclusions have provided the basis for a draft Recommendation which the Committee is submitting for consideration by the Council (see Annex V).

7. Consistency between road signs and signals and road infrastructure

The road user proceeds not only in accordance with the directions and information given by road signs and signals but also adjust his behaviour on the basis of the profile and condition of road infrastructure, so it would seem to be in the interest of road safety that road signs and signals and infrastructure should form a coherent whole.

In the context of its contribution to the current revision of the 1968 Convention on Road Signs and Signals, the Committee suggests that the inclusion of this principle in the Convention be examined.

However, both the importance and topicality of this matter prompt the Committee to propose that the Council of Ministers should assign a mandate to the Committee of Deputies to make a more detailed study of the possibilities of reaching common guidelines for infrastructure safety to be laid down for the use of governments.

A draft Recommendation has been drawn up for this purpose and is set out in Annex VI to this report.

The Committee submits this report and its Annexes to the Council, drawing its attention to the fact that Annexes I, II and III are submitted for information.

Annex 1

ECMT RECOMMENDATIONS PREPARED BY THE COMMITTEE FOR ROAD TRAFFIC, SIGNS AND SIGNALS SINCE 1974

1. Introduction

In this note, some reflections are given on the implementation of the recommendations proposed by the Committee for Road Traffic, Signs and Signals since 1974 and adopted by the Council of Ministers. Furthermore, a report on the effectiveness of the said recommendations is given.

2. Reflections

In general it is common practice that the CRSS formulate draft recommendations in the form of amendments to the Vienna Convention(s). This means that most of its proposals are expressed in legal wording and are based on agreements binding for the contracting parties of these Conventions.

Not all provisions in the Conventions, however, are intended to be implemented by *all* contracting parties of the Conventions: some of these are of an optional character: for instance a road sign like "snow chains compulsory" is not necessary to be introduced in all countries. Other provisions have a more compulsory character, i.e. the contracting parties to the Conventions are bound to implement them in one form or another according to their own system of legislation [see: Convention on Road Signs and Signals: article 3 para 4 and Convention on Road Traffic: article 3 para 1 a)]. As far as recommendations adopted by the ECMT are concerned, despite their more or less compulsory character, their impact both on international traffic and on national (and international) road safety plays also a part for a country when considering the necessity of their implementation. When studying the Annex attached to this document this should be kept in mind.

At last, another complicating aspect is that sometimes a recommendation can be executed in a system of a domestic administration without a provision with the nature of a law. This complication makes a strict appraisal of the execution of ECMT recommendations hazardous.

The recommendations of ECMT on road traffic, signs and signals do not only have effect within ECMT-Member countries. They are also sent to the UN/ECE in Geneva where most recommendations find their way as amendments to the European agreements on road traffic, signs and signals and also to the (world) Conventions of Vienna (1968) on Road traffic, Signs and Signals. So ECMT can be seen as an important source of international law in this field.

3. Survey and conclusions

Since 1974, the Committee for Road Traffic, Signs and Signals has drafted thirty-nine recommendations (later one recommendation was withdrawn and revised in principle). Thirty out of these recommendations are in the form of amendments to the Convention(s). At this moment, it can be said that most Member countries of ECMT that are represented in the Committee for Road Traffic Signs and Signals are involved in the implementation of most ECMT recommendations or are envisaging implementation in the future. The number of reservations made is low.

The conclusion can be drawn that ECMT recommendations, whether formulated as amendments to the Convention or not, have influenced present and future domestic legislation considerably.

A survey of all recommendations as at 1st January, 1988 is given following this note. It should be noted that the column "no implementation at the moment" includes the data given in the columns "implementation in future envisaged".

No	Document	Description	Recommendation of ECMT only or amendment to Convention	Reservation	Implementation		No implementation at the moment	Implementation envisaged in the future	
					in legislation	Otherwise		in legislation	Otherwise
1.	CM(74)5	The possibility to place at level-crossings light signals also in the middle of the carriageway.	Amendment to CRSS		4	3	4		
2.	CM(74)15	Standardization of informative signs concerning church services.	Amendment to CRSS	1	3	2	6		
3.	CM(74)15	Use on direction signs of the language of the country in which the indicated place is situated (near frontiers).	Amendment to CRSS		6	2	3	1	
4.	CM(74)15	Sign to mark overhanging loads (rev. see 12).							
5.	CM(74)15	Special marking of streetlamps that are not burning at night.	Recommendation		3	1	8	1	1
6.	CM(74)15	Lighting of vehicles standing or parked on special sites off the carriageway.	Amendment to CRT		11		1		
7.	CM(76)31	Advisory speed sign (also part of 39).	Amendment to CRSS	3	4		7		
8.	CM(76)31	Introduction of road sign "no entry for combinations of vehicles".	Amendment to CRSS		5	1	5	1	
9.	CM(76)31	Obligation for drivers to keep lane clear for priority vehicles (later this proposal for an amendment to the Convention has been withdrawn).	Amendment to CRT	2	4		8		
10.	CM(77)24 25	The obligation to leave a motorway when towing a broken down vehicle with a makeshift device.	Amendment to CRT	1	10		2		1
11.	CM(77)24	Parking facilities for handicapped persons (facilities for nationals and acceptance of the disabled persons' document as proposed by ECMT).	Recommendation		8	4			
12.	CM(77)24	Sign to mark overhanging loads.	Amendment to CRT		9		3	1	1
13.	CM(77)24	Improvement of provision in the Convention on the validity of road signs placed near the sign "built-up area".	Amendment to CRSS		4		7	1	
14.	CM(77)24	Improvement of existing provision as to stipulate that overtaking should only be done very quickly.	Amendment to CRT		10	1	2		
15.	CM(78)2	Traffic rules and road signs for residential areas	Amendment to CRT + CRSS		8		4		4
16.	CM(78)2	Signing of escape lane	Amendment to CRSS		2	1	9	3	
17.	CM(78)2	Signing of closed lane	Amendment to CRSS		9	1	1	1	
18.	CM(79)4	Meaning of signs for traffic in lanes placed on gantries over the carriageway or placed on panels on the edge of the carriageway indicating the various lanes.	Amendment to CRSS		8	1	3	3	

Annex 2

DOMESTIC REGULATIONS TO FOREIGN DRIVERS

1. Introduction

Recently there have been differences of opinion as to whether, for example:

- The carrying of a first-aid box;
- The wearing of a protective helmet according to ECE Regulation n° 22;

can be made compulsory also for foreign motorists.

Consideration of this matter has led to a wider inquiry into the legal aspects of the application of domestic regulations to foreign drivers and, hence, to an interpretation of the international conventions which have a bearing on the subject.

As this analysis may be useful to the departments concerned in each country, this paper is submitted to the Council of Ministers for information.

2. Legal basis resulting from international conventions

To deal with the problem at issue, it is appropriate to begin by reviewing the provisions of international conventions which may be relevant in cases where disputes arise between States Parties to these Conventions.

The international legislation on Road Traffic may be considered as taking account, in general, the following principles:

- The building and equipping of motor vehicles are fixed in the legislation of the country of registration, but only those vehicles conforming with minimum conditions fixed in the Conventions concerned are admitted in international traffic;
- The behaviour in international traffic, i.e. how and where to drive, to stop, is submitted to the legislation of the country where the vehicle is in circulation.

The measure to apply, depends on the Convention signed by the country of registration and the one ratified by the country of circulation. It means it can either be the Paris Convention, 24th April 1926; the Geneva Convention, 10th September 1949 or the Vienna Convention, 8th November 1968. If both countries have not yet signed the 1968 Convention, then they should have at least ratified either the 1949 one or the 1926 one.

A. *Paris Convention, 24th April, 1926:*¹

Article 1: "The Convention applies to road motor traffic generally, irrespective of the type and purpose of transport, but subject to each country's special provisions for public passenger transport and freight transport by public carriers."

Article 3: "With regard to weight and loading gauge limitations, motor vehicles and trailers shall comply with the general regulations of the countries in which they are used."
Ch. VIII

Article 8: "Drivers of vehicles in any country shall comply with the traffic laws and regulations in force in that country."

1. Translator's note: There is no official English version.

B. Geneva Convention, 19th September, 1949

Article 1: While reserving its jurisdiction over the use of its own roads, each Contracting State agrees to the use of its roads for international traffic under the conditions set out in this Convention.
Ch. 1
(Cf. Articles 1 and 3 of the Paris Convention).

Chapter II: "Rules of the road".

Article 6: "Each Contracting State shall take appropriate measures to ensure the observance of the rules set out in this Chapter."

Article 22: "...every motor vehicle, or trailer, and its equipment shall conform to the provisions of Annex 6 and the driver of every motor vehicle shall observe the rules set out therein."
Ch. 2
(Annex 6 deals with "technical conditions concerning the equipment of motor vehicles and trailers in international traffic").

Article 23: "The maximum dimensions and weights of vehicles permitted to travel on the roads of each Contracting State or subdivision thereof shall be matters for domestic legislation. On certain roads designated by States Parties to regional agreements or, in the absence of such agreements, by a Contracting State, the permissible maximum dimensions and weights shall be those set out in Annex 7."

C. Vienna Convention, 8th November, 1968

Article 3: "Contracting Parties shall take appropriate measures to ensure that the rules of the road in force in their territories conform in substance to the provisions of Chapter 2 of this Convention. Provided that the said rules are in no way incompatible with the said provisions:
1(a)

(i) ...

(ii) The said rules may include provisions not contained in the said Chapter II.² (Chapter II is entitled "Rules of the road").

Article 3: "Contracting Parties shall also take appropriate measures to ensure that the rules in force in their territories concerning the technical requirements to be satisfied by motor vehicles and trailers conform to the provisions of Annex 5 to this Convention; provided that they are in no way contrary to the safety principles governing the provisions of Annex 5, the said rules may contain provisions not contained in Annex 5."
2(a)

Annex 5: Technical conditions concerning motor vehicles and trailers.

3. "Without prejudice to the provisions of Article 3, paragraph 2(a) of this Convention, any Contracting Party may, with respect to motor vehicles which it registers and to trailers which it allows on the road under its domestic legislation, lay down rules which supplement, or are stricter than, the provisions of this Annex.

Article 3: (Concerns bicycles and mopeds in international traffic)
5

Article 3: This paragraph contains an explicit reservation safeguarding domestic regulations concerning:
8
– "Commercial carriage of passengers and goods;"
– "Insurance of drivers against third-party risks;"
– "Customs regulations."

Article 39: "Every motor vehicle, every trailer and every combination of vehicles in international traffic shall satisfy the provisions of Annex 5 to this Convention. It shall also be in good working order."

Article 52: "Any dispute between two or more Contracting Parties which relates to the interpretation or application of this Convention and which the Parties are unable to settle by negotiation or other means of settlement may be referred, at the request of any of the Contracting Parties concerned, to the International Court of Justice for Decision."

(The same provision appears under Article 33 of the Geneva Convention – 1949).

Annex 1, paragraph 1

"Contracting parties may refuse to admit to their territories in international traffic motor vehicles, trailers or combinations of vehicles whose overall weight or weight per axle or dimensions exceed the limits fixed by their domestic legislation for vehicles registered in their territories. Contracting parties in whose territories there is international heavy vehicle traffic shall endeavour to conclude regional agreements under which roads in the region, with the exception of minor roads, will be open, in international traffic, to vehicles or combinations of vehicles whose weight and dimensions do not exceed the figures specified in these agreements".

General Analysis

A. Traffic rules

1. *Paris Convention (1926)*: Article 8 plainly expresses the idea that foreign drivers must obey the traffic rules in force in the country where they happen to be. As the article is drafted in somewhat broad terms, i.e. “traffic rules in force in that country”, the Swiss Delegation had asked, at the time, to have it put on record that the wording should also be taken to cover provisions concerning third-party insurance, this being the interpretation given in the course of the discussion.
2. *Geneva Convention (1949)*: None of its articles reinstate this quite clear provision of the Paris Convention, but this does not mean that the Contracting States in 1949 intended to alter the scope of the new Convention in the matter of traffic rules. The reason rather lies in general principles of law, notably the principle of territorial sovereignty whereby, unless otherwise provided, domestic legislation is applicable to aliens. This intention is indeed implicit in Article 1¹ of the Geneva Convention (1949).
3. *Vienna Convention (1968)*: Here again, the provisions must be interpreted in the light of the principle of territorial sovereignty. Article 3, 1(a) (ii) also makes it quite clear that though each country’s traffic rules must conform in substance to those of the Convention, they can include other provisions as long as these are not incompatible with international agreements.

The reason for there being no explicit reservation in favour of domestic traffic rules in Article 3, paragraph 8 is because this point is already specially dealt with under paragraph 1(a).

B. Technical provisions

1. *Paris Convention (1926)(1)*: Article 3, Sections 1, 3 and 7, provides that motor vehicles must be equipped with the technical devices listed therein. Furthermore, Article 4 (issue and recognition of international certificates for motor vehicles) stipulates that such certificates shall be issued for any motor vehicle “internationally accepted” for use on the public highway if the conditions specified under Article 3.3 are fulfilled or likely to be fulfilled. These certificates “give free access to traffic in other contracting States and are recognised there as valid without further enquiry” Article 4, third paragraph).

It follows that the conditions laid down under Article 3 are exhaustive and that the host country cannot go beyond them by requiring foreign vehicles to be equipped with additional technical devices. Indeed, it is stipulated at the end of Article 4 that the right to use the international certificate cannot be refused unless it is evident that the conditions specified under Article 3 are no longer fulfilled.

2. *Geneva Convention (1949)*: Under “Provisions applicable to motor vehicles and trailers in international traffic”, Article 22, paragraph 2 provides that such vehicles and their equipment shall conform to the provisions of Annex 6. As in the case of the Paris Convention (1926) these are exhaustive provisions in the sense that they stipulate minimal technical requirements which must be complied with in international traffic. It follows that a host country cannot require foreign vehicles to be equipped with additional technical devices. A conflicting interpretation would run counter to the actual purpose of the Convention.
3. *Vienna Convention (1968)*: The legal position is quite explicitly stated. “Every motor vehicle... in international traffic shall satisfy the provisions of Annex 5” (see Article 39). Furthermore, “any Contracting Party may, with respect to motor vehicles which it registers and to trailers which it allows on the road under its domestic legislation, lay down rules which supplement, or are stricter than, the provisions of the Annex” (see Annex 5, paragraph 3).

Separate Analysis

(Application of the principles set out under Section III above in given cases).

Among the problems which have attracted attention in the course of international proceedings on road traffic in the past, or which are now of distinctly topical interest, the following are worthy of note:

- A. Obligation whereby an advance warning triangle must be carried in the vehicle;
- B. Compulsory wearing of seat belts;
- C. Speed limit for vehicles fitted with studded tyres;
- D. Weights and dimensions of vehicles;
- E. First-aid boxes;
- F. Fire-extinguishers;
- G. Protective helmets;
- H. Children’s restraint systems.

1. Translator’s note: There is no official English version.

A. *Obligation whereby an advance warning triangle must be carried in the vehicle*

There can be no doubt that this provision concerns the technical equipment of the vehicle, even though it refers to a device needed by the driver in order to comply with a formal traffic rule, that is, to give advance warning that a stationary vehicle lies ahead because of a breakdown or accident. It is nevertheless not impossible for the driver or his passengers to use other ways of warning drivers of vehicles coming from the rear.

1. *Paris Convention (1926)* does not enable the host country to require that an advance warning triangle shall be carried in vehicles registered abroad.
2. *Geneva Convention (1949)*; the same conclusion applies in this case. It is also worthy of note that Article 13 simply provides that drivers shall not leave vehicles stationary on a carriageway “until they have taken all necessary precautions to avoid an accident”. It follows that the use of an advance warning triangle is not insisted upon.
3. *The Vienna Convention (1968)*: recommends, under Article 23, paragraph 5, “that domestic legislation should provide as follows: every power-driven vehicle other than a two-wheeled moped or a two-wheeled motor cycle without sidecar, and every trailer coupled or uncoupled shall when stationary on the carriageway outside a built up area be signalled to approaching drivers at a sufficient distance by means of at least one appropriate device placed at the most suitable point to give them adequate advance warning”. Annex 1, paragraph 6, also provides that “Contracting Parties may make it a condition for the admission to their territories in international traffic of any motor vehicle (...) that the motor vehicle shall carry a device referred to in paragraph 56¹ of Annex 5 to this convention, to give warning of the danger constituted by the vehicle’s presence when it is stationary on the carriageway”.

Thus, in contrast to the Conventions of 1926 and 1949, the 1968 Convention gives the host country the *right* to insist that an advance warning triangle be carried in the vehicle.

B. *Compulsory wearing of seat belts*

1. *Paris Convention (1926)*: Though compulsory wearing of seat belts is a traffic rule which the host country can apply to drivers of vehicles registered abroad, ability to comply with this rule essentially depends on whether the vehicle is fitted with seat belts (i.e. a technical regulation) and this is not a requirement. It follows that the host country can require drivers coming from abroad to wear seat belts only if their vehicles are correspondingly equipped.
2. *Geneva Convention (1949)*: Same conclusion.
3. *Vienna Convention (1968)*: Same conclusion.

C. *Speed limit on vehicle equipped with studded tyres*

This is, without question, a traffic rule which the host country can require drivers to comply with by reference to the three Conventions under review.

The speed limit prescribed in the host country must be obeyed by foreign drivers, irrespective of the speed laid down in their own country and notwithstanding any figure shown on a sticker on the back window.

The sticker itself is an identification mark (or item of equipment) which the Conventions do not provide for and which cannot accordingly be made a requirement by the host country.

D. *Weights and dimensions of vehicles*

In all three Conventions, weights and dimensions of vehicles in international traffic are explicitly left to domestic legislation to decide, except where otherwise agreed.

Paris Convention (1926): See Article 3, paragraph VIII.

Geneva Convention (1949): See Article 23 and Annex 7.

Vienna Convention (1968): See whole of Annex 1.

E. *First-aid boxes*

As opposed to the warning triangle whose compulsory carriage in international traffic can be required according to Article 23 paragraph 5, Annex 1 paragraph 5, Annex 5 paragraph 56 of the Convention on Road Traffic, the same Convention or its Annexes do not mention the first-aid box. The carrying of a first-aid box, therefore, cannot be required.

F. *Fire extinguishers*

The same remarks as under E, also apply here. The carrying of a fire extinguisher cannot be required.

1. Paragraph 56 sets out the technical specifications of the advance warning triangle.

G. Protective helmets

According to Annex 1 paragraph 5 of the Convention on Road Traffic the Contracting Parties do not have to authorize in their territories "mofas" (motor-assisted bicycles) and motorcycles whose driver and passenger do not wear protective helmets. It is, however, not laid down that this protective helmet has to be in conformity with certain national or international regulations.

The wearing of a protective helmet, therefore, can be required, but not the wearing of a helmet which corresponds to the ECE regulations.

H. Children's restraint systems:

The remarks made on seat belts (see B above) also apply here.

Annex 3

USE OF TRAFFIC LIGHT SIGNALS

Introduction

This paper sets out the results of the recent survey carried out into the uses of various types of traffic light signals by ECMT Member countries. Information is included on the signalling systems used in Austria, Belgium, Denmark, Federal Republic of Germany, Finland, France, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland and United Kingdom. Details of the responses to the questionnaire CS/CCSR(86)9 circulated on 6th November 1986 are given at Appendix A and the general findings are discussed below.

Provisions of the Convention

Article 23 of the 1968 Vienna Convention on Road Signs and Signals, as amended by the 1971 European Agreement, provides for light signals for the control of vehicular traffic of the following types:-

- a) 3-colour non flashing lights – red/amber/green, normally used at junctions or pedestrian crossings. The three lights may show arrow or cycle symbols. The signals may be mounted vertically or horizontally.
- b) Red flashing lights (either single or twin lights flashing alternately) for use at railway level crossings, swing bridges, ferry boat landing stages, airfields, or fire stations.
- c) Amber flashing lights (either single or twin lights flashing alternately) to indicate that drivers may proceed but should do so with particular care.
- d) Red cross and green arrow lights for lane control.

Article 24 of the Convention provides for pedestrian signals consisting of a red steady pedestrian figure above a green walking pedestrian figure. The green light may flash to indicate that the crossing period is about to end.

3-Aspect Junction Signals

All countries use the standard 3-aspect red/amber/green signals at junctions with the meanings given in the Convention although practices differ as to whether the red and amber signals are shown together as an indication of the impending change from red to green. ECMT countries are fairly evenly divided on the use of this red with amber signal. Countries are generally satisfied with the system they use, although some problems have arisen with the use of the red with amber system in Austria and the United Kingdom where drivers have anticipated the green signal and started to move during the red with amber signal.

Several countries supplement the main signals with smaller repeater signals mounted on the same post as, but below, the main signals. These are intended to give a better view of the signals to the first vehicles waiting at the signals. In Switzerland the repeater signals are only used in conjunction with overhead signals. Other countries deal with this problem by not mounting the signals on such high posts or by providing additional (full-size) signals on the opposite site of the junction.

About half of the countries use horizontally mounted signals in some situations, particularly where there is not sufficient space for the normal vertical signal heads to be mounted above the road. The arrangement of colours is always red/amber/green from left to right.

All the countries employ a mixture of control methods depending on the age and location of the equipment. Vehicle detection is commonly used in Finland, Netherlands, Sweden and United Kingdom, while in Belgium, Spain, Switzerland, Austria and Portugal most of the signals operate on fixed timings. Area computer control is widely used in large cities in Finland and United Kingdom and is increasingly being used in Belgium and France.

Flashing Amber Light Signals

Flashing amber lights are used at off-peak times (particularly at night) in seven countries and two others make limited use of these signals. Only six countries use the flashing amber/steady amber/steady red signal sequence described in Article 23, paragraph 11bis of the European Agreement, but these countries use them for a variety of purposes.

The United Kingdom and Belgium in some cases, are the only countries not to use arrow symbols on the red and amber signals in conjunction with the green arrow signals. Practices vary as to whether the arrows are in black (sometimes just the outline of the arrow) on the coloured signal or the arrow is illuminated and coloured red or amber on the black background. The red and amber arrows are not necessarily the same design as the green arrow in this respect. All the countries who use red and amber arrows, except Denmark and Finland, use double headed arrows where traffic is permitted to move in two different directions, when the green signal is displayed.

Cycle Signals

All the countries except Spain and Portugal have special signals for cyclists. The majority of countries use cycle symbols on the signal lights (although the United Kingdom does not use the cycle symbol mounted on the signal head. Practice is fairly evenly divided as to whether the cycle signals are the same size as other signals or smaller. All these variations are within the scope of paragraph 13 of Article 23 in the Convention.

Pedestrian Signals

All the countries use the red and green signals with the symbol of a pedestrian as described in Article 24, but Austria also uses signals with a white pedestrian figure on a red and green background. The Netherlands are experimenting with signals where a flashing orange triangle symbol with an exclamation mark inside it replaces the red pedestrian signal. When this flashing triangle is displayed pedestrians may cross at their own risk or may push the button and wait for the green signal to obtain normal protection from vehicles. The method of indicating the change from the green to red pedestrian signals varies considerably – flashing green signals (as provided for in the Convention), a direct change from green to red, a steady amber signal (without a pedestrian symbol) or a brief blackout period when neither signal is displayed.

In about two thirds of the countries, vehicles can proceed through the part of the junction where pedestrians are crossing when the steady green pedestrian signal is displayed, provided that the vehicles give way to pedestrians. In most of these countries the normal green or green arrow signal is displayed to vehicles, but Spain, Portugal and Luxembourg use a flashing amber signal to warn drivers to give way to pedestrians. It is a general rule in all the countries that turning traffic should give way to pedestrians whether or not there are any special signals, but this rule is not well observed in Austria, Luxembourg and United Kingdom.

Practices vary considerably at crossings used by both cyclists and pedestrians. Some countries provide separate crossing facilities alongside each other, each with its own signals. Other countries either allow cyclists to use a pedestrian crossing without providing special signals or use signals with both the pedestrian and cycle symbols on the red and green aspects. Switzerland uses ordinary red and green signals without any symbols for a combined crossing.

Only a few countries provide special signals for pedestrians where they cross tram tracks. These signals are used particularly where other traffic is held at red signals to allow pedestrians to cross, but the trams may still proceed. (See Appendix B)

Flashing Red Lights

All the countries use flashing red lights at railway level crossings ; the majority of the countries also use similar signals at swing bridges, lifting bridges ferry terminals and fire stations (also ambulance stations in some cases in the United Kingdom). Denmark, Sweden, France and the United Kingdom also use them near airfields where low flying aircraft can present a hazard to road traffic. Portugal are also considering using them in this way. Austria are experimenting with using flashing red lights for the pedestrian clearance period as in the USA.

Only Austria, Finland and the United Kingdom use a steady amber light preceding the flashing red lights. Belgium and Sweden use a white light in some cases.

Special signals for public transport vehicles

All the countries except the United Kingdom use special signals for trams and trolleybuses. These signals are not provided for in the Convention and take a variety of forms, but all are distinctively different from the signals intended for other types of traffic. Most of these signals include white bars or rows of lights to give indications equivalent to red, amber or green. They are illustrated at Appendix C.

Motorways and other land control signals

All the countries except the United Kingdom use the red cross signal to indicate that a lane is closed to traffic. The United Kingdom uses the red cross signal for lane control in a few "tidal flow" systems but uses four red lights flashing in pairs to indicate that a lane is closed on a motorway. However, the United Kingdom is considering adding the red cross symbol to its motorway flashing red light signal.

Most countries use the green downward pointing arrow to indicate that the lane is open to traffic. The United Kingdom (on motorways), Luxembourg and Spain do not display any signal when the lane is open to traffic. The United Kingdom uses a white downward pointing arrow to indicate "lane open" in the "tidal flow" systems that use the red cross signal. Matrix signals are also sometimes used to display arrows or "lane closed" symbols to indicate the situation to drivers.

Conclusions and Recommendations

It appears that the ECMT member countries work within the provisions of the Convention in the majority of cases, although the Convention itself does allow scope for quite a number of variations in practice. The Convention does not cover signals for trams and trolleybuses, but as these vehicles have to operate on fixed routes and do not move freely in international traffic, there is not the same need for standardisation provided the signals do not confuse other drivers.

The main differences in practice are:

- a) Whether or not the red with amber signal is used;
- b) Whether flashing amber lights are used when there is little traffic;
- c) The design of cycle signals and combined cycle/pedestrian signals;
- d) How the change from the green to red pedestrian signal is indicated;
- e) Whether the green pedestrian signal indicates that all vehicles are stopped or that vehicles may proceed provided they give way to pedestrians.

With these differences in practice being fairly evenly divided amongst the Member countries there seems to be little prospect of achieving a greater degree of uniformity in the short term. However ECMT member countries are invited to note the practices in other countries and to take any opportunities to achieve greater uniformity with neighbouring countries. It is perhaps particularly important to consider pedestrian signalling since all visitors to a country will be pedestrians at some stage in their journey. Developments in technology are allowing more complex signalling systems to be designed. Countries should take care to avoid increasing the differences with other countries when developing new signalling systems.

Appendix A

TRAFFIC LIGHT SIGNALS

Summaries of replies to questionnaire from ECMT Member countries

A. Three colour light signals for vehicular traffic

1. *Is a red with amber signal used after the red signal?*

- YES – United Kingdom, Sweden, Denmark, Finland, Germany, Austria.
- SOMETIMES – Switzerland.
- NO – Belgium, Spain, Luxembourg, Netherlands, Portugal, France.

2. *Are there any problems with this system?*

- NO – Sweden, Denmark, Switzerland, Finland, Germany.
- YES – United Kingdom drivers anticipating signals miss arrow indications at some complex junctions.
Austria – anticipation of lights – accidents during clearance interval.

3. Horizontally mounted signals

a) Are these signals used?

- YES – Luxembourg, Switzerland, Finland, Austria, Portugal, France
- NO – United Kingdom, Sweden, Denmark, Belgium, Spain, Netherlands, Germany.

b) Arrangement of signal colours:

Left to right – red, amber, green:

Luxembourg, Switzerland, Austria, Finland, Portugal, France.

c) Situations where these signals are used:

- Luxembourg – on gantries or overbridges with insufficient height for vertical signals.
- Switzerland – above the road.
- Finland and France – where there is insufficient space for vertical signals e.g. in tunnels and low bridges.
- Portugal – only where there is no room for the normal arrangement.

4. *Small repeater signals below main signals*

a) Are the signals used?

- YES – Spain, Luxembourg, Netherlands, Switzerland, Austria, France.
- NO – United Kingdom, Sweden, Denmark, Belgium, Finland, Germany, Portugal.

b) Purpose

- to give a better view of the signal for the first vehicle at stop line – Luxembourg, Netherlands, Austria, Spain. France – small signals slanted. Only used when the main signal is above the road – Switzerland.

5. *How is the timing of the change of the signals controlled?*

- Fixed times – All three methods in United Kingdom, Sweden, Denmark, Belgium, Spain, Luxembourg,
- Vehicle detection – Netherlands, Switzerland, Finland, Germany, Austria, Portugal, France.
- Computer control

- Other methods:
- Germany – manual control by pushing a button to give all-red signals;
 - Austria – manual control by police;
 - Portugal – traffic police control in a given area.
 - France – coordination between several junctions even where there is no central control post.

Most widely used:

<i>Fixed time</i>	<i>Vehicle Detection</i>	<i>Computer Control</i>
Belgium	United Kingdom	United Kingdom (large cities)
Spain (but detection being used more and more)	Sweden	Finland (large cities)
Switzerland	Netherlands	
Austria	Finland	
Portugal		

In Belgium use of vehicle detection and computer control is increasing on main routes and in large towns.
 In Denmark all three methods are more or less evenly used.
 In Germany no particular method is more widely used than others.
 In Luxembourg fixed time and vehicle detection are both widely used.
 In France all are widely used, the situation is changing rapidly as computer control is introduced in most towns.

6. *Are flashing amber signals used when there is little traffic (e.g. at night?)*

- | | |
|-----------|---|
| YES | - Sweden, Netherlands, Switzerland, Finland, Germany, Austria, France, but the system is not recommended by the Ministry of Transport because it increases accidents. |
| NO | - United Kingdom, Denmark, Spain, Portugal. |
| SOMETIMES | - Belgium, Luxembourg – e.g. near hospitals to reduce noise at night. |

7. *Flashing amber, steady amber, steady red, signal sequence (See Article 23 paragraph 11 bis of the European Agreement)*

a) *Is this signal sequence used?*

- | | |
|-----------|--|
| YES | - Luxembourg, Switzerland, Finland, Germany, France, Belgium |
| NO | - United Kingdom, Denmark, Spain, Netherlands, Austria, Portugal. |
| SOMETIMES | - Sweden – although Road Safety Office advise against this system. |

b) *Significance and situations where this system is used*

- | | |
|-------------|---|
| Sweden | - used in some cities on fixed time signals. |
| Luxembourg | - used to control normally permitted left/right turns to give priority to buses in bus lanes. |
| Switzerland | - used near fire stations, bus terminals, airfields, at the entry to and inside tunnels. |
| Finland | - used when signals in 6 above precede normal signals. |
| Belgium | - to indicate a specially dangerous place. |

8. *Arrow symbols on red and amber signals*

a) *Are these used?*

- | | |
|-----------|--|
| YES | - Sweden, Denmark, Spain, Luxembourg, Netherlands, Switzerland, Finland, Germany, Austria, Portugal, France. |
| NO | - United Kingdom |
| SOMETIMES | - Belgium |

b) Design:

Black arrow on red/lamber background

Sweden – black outline
Denmark – black outline
Spain
Luxembourg
Switzerland
Finland – black outline
Portugal

Red/lamber arrow on black background

Belgium
Netherlands
France

Either of the designs

Germany
Austria

Arrows point in more than one direction in some cases

YES – Sweden, Belgium, Spain, Luxembourg, Netherlands, Switzerland, Germany, Austria, Portugal.

NO – Denmark, Finland.

9. *Special signals for cyclists*

a) Are these used?

YES – United Kingdom, Sweden, Denmark, Belgium, Luxembourg, Netherlands, Switzerland, Finland, Germany, Austria, France.

NO – Spain, Portugal.

b) Design

i) Size

Same as other signals

Smaller

United Kingdom
Belgium
Netherlands

Sweden
Denmark
Luxembourg
Switzerland
Finland
France

Both sizes used

Germany
Austria

ii) How symbol is shown

On all three lights – Belgium, Luxembourg, Netherlands, Switzerland, Austria (sometimes with arrows as well), France (sometimes)

On green and amber lights – United Kingdom.

Plate added to signal head (above or below lights)

(No symbol on lights) – Sweden, Denmark, Finland, Austria, France (sometimes)

In Germany various different designs of signal are used.

B. Pedestrian signals

10. *Are any signals different from red/green pedestrian symbols (as Article 24) used?*

YES – Austria – white figures on red/green rectangular background are used on some signals.
– France – same symbols but placed horizontally, red to the left.

NO – United Kingdom, Sweden, Denmark, Belgium, Spain, Luxembourg, Netherlands*, Switzerland+, Finland, Germany, Portugal.

* The Netherlands are experimenting with signals where a flashing orange triangle with an exclamation mark inside it replaces the red pedestrian signal. Pedestrians may cross at their own risk when the triangle is displayed or may press the button and wait for the green man symbol to obtain normal protection.

+ Switzerland – an amber signal without any symbols is sometimes used in addition to the red/green pedestrian signals.

11. *How is the change from green to red indicated to pedestrians?*

- By a flashing green signal – United Kingdom – at “Pelican” crossings, Sweden (since 1983), Belgium, Spain, Luxembourg (exceptionally), Netherlands, Switzerland (sometimes) Austria, Portugal (sometimes), France (sometimes).
- By a steady amber signal – Switzerland (sometimes).
- By a blackout – United Kingdom (at some junction signals).
- Direct change – United Kingdom (at some junction signals), Denmark, Sweden (older signals), Luxembourg (normally), Switzerland (sometimes), Finland, Germany, Austria – in places until 1988, Belgium, Portugal (sometimes), France (sometimes).

12. *Can vehicles proceed, giving way to pedestrians, during steady green pedestrian signal?*

- YES – Denmark, Spain, Luxembourg, Netherlands, Finland, Germany, Portugal, France, Belgium.
- NO – United Kingdom, Sweden, Switzerland, Austria.

If yes what signal is shown to vehicles?

- Normal steady green – Netherlands, Finland (when turning) Germany, France (no special signal – vehicle can proceed but do not have right of way).
- Flashing amber – Spain, Luxembourg (with pedestrian symbol), Portugal.
- Green arrows for turns plus red for ahead traffic – Spain and Luxembourg.

13. *Is it a general rule that turning vehicles should give priority to pedestrians crossing?*

- YES – United Kingdom, Sweden, Denmark, Belgium, Spain, Luxembourg, Netherlands, Switzerland, Finland, Germany, Austria, Portugal, France.
- NO

Is this rule obeyed?

- YES – Sweden, Denmark, Belgium, Spain, (but not always), Netherlands, Switzerland, Finland, Germany, Portugal, France
- NO – United Kingdom, Luxembourg, Austria.

14. *Parallel pedestrian and cycle crossings*

a) *Are separate signals used?*

- YES – United Kingdom, Sweden, Luxembourg, Netherlands, France, Belgium.
- NO – Denmark, Switzerland, Finland.
- SOMETIMES – Austria, Germany.
- No such crossings – Spain, Portugal.

b) *Design of combined signals used*

- Pedestrian and cycle symbols on red and green signals – Austria, Germany.
- Pedestrian symbol only – Denmark (cyclists use area next to pedestrian crossing)
- Belgium
- Finland
- Other – Sweden is to experiment with both symbols on red, amber and green lights.
- Switzerland use ordinary red and green signals without symbols.
- In Portugal cyclists pushing their vehicles can use pedestrian crossings.

15. *Special signals where pedestrians cross tram tracks*

a) *Are such signals used?*

- YES – Sweden, Netherlands, Austria.
- NO – United Kingdom, Denmark, Belgium, Spain, Luxembourg, Finland, Germany, Portugal, France.
- SOMETIMES – Switzerland.

b) *Designs*

See Appendix B

c) Flashing red light signals

16. *Main Uses*

<i>Rail level crossings</i>	<i>Swinglifting bridges or ferry terminals</i>	<i>Fire stations</i>
All countries	United Kingdom Sweden Denmark Spain Netherlands Finland Germany Portugal France	United Kingdom Sweden Denmark Spain Finland Portugal France

Other uses:

- Airfields – United Kingdom, Sweden, Denmark (Portugal are considering this use), France.
- Ambulance stations – United Kingdom.
- Experiment for pedestrian clearance period as USA – Austria.

17. *Are flashing red lights preceded by a steady amber light?*

- YES – United Kingdom, Finland, Austria.
- NO – Denmark, Luxembourg, Netherlands, Switzerland, Germany, Portugal, France.
- OTHER – Belgium use white light (flashing) which shows at all times except in red phase.
– Sweden uses flashing white light at railway level crossings, but no light in other situations.

D. Special signals for public transport vehicles

18. *Are special signals used to control public transport vehicles at junctions?*

- YES – Sweden, Denmark, Belgium, Luxembourg, Netherlands, Switzerland, Finland (for trams only), Germany, Austria, Portugal, France.
 - NO – United Kingdom
- Illustrations at Appendix C.

E. Motorway and other lane control signals

19. *“Lane closed” signal designs*

- Red cross – United Kingdom (“Tidal flow” lane control), Sweden, Denmark, Belgium, Spain, Luxembourg, Netherlands, Switzerland, Finland, Germany, Austria, Portugal, France.
- Flashing red – United Kingdom uses four flashing in vertical pairs for emergency closures on motorways.

20. *“Lane open” signal changes*

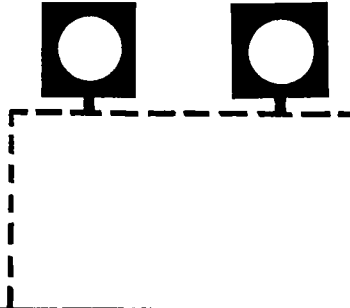
- Green downward arrow – Sweden, Denmark, Belgium, Spain, Netherlands, Switzerland, Finland, Germany, Austria, Portugal, France.
- White downward arrow – United Kingdom (“Tidal flow” lane control).
- No electronic signal – United Kingdom (motorways), Luxembourg.

Note: Matrix signals with arrows, ‘closed lane’ symbols etc. may be used in United Kingdom and Netherlands to indicate the situation to drivers.

EXAMPLES OF SIGNALS TO WARN PEDESTRIANS WHEN CROSSING TRAM TRACKS

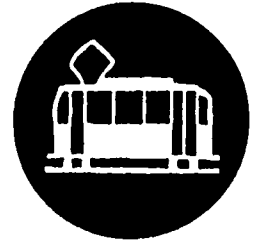
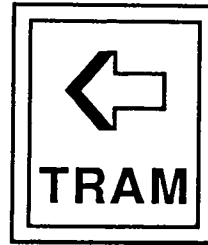
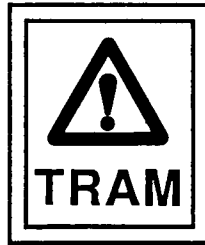
SWEDEN

Flashing amber lights



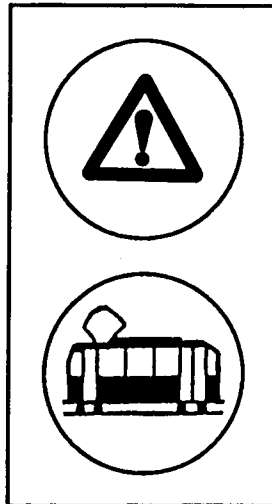
NETHERLANDS

Flashing red symbols



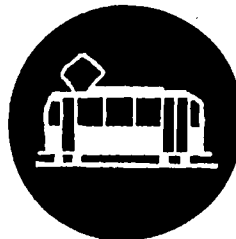
AUSTRIA

Black symbols on
amber lights


















































SWITZERLAND

Flashing amber symbol



Appendix C

SIGNALS FOR TRAMS AND BUSES

Meaning	Symbol used in each country									Belgium & Switzerland	Netherlands
	France	Denmark	Finland	Sweden	Austria	Germany	Luxembourg	Portugal			
STOP	 Red										
Same as amber signal for other traffic	 Amber										
Proceed ahead	 Green										
Give way											
Turn Left											
Turn Right											
Proceed ahead or turn left											
Proceed ahead or turn right											

Notes

- Not lit
- ⦿ Red light
- ⦿ Yellow light
- Other lights or Symbols are white

* other similar combinations of lights indicate "Turn right or left" or "Proceed ahead or turn left or right".

Annex 4

CHANGE OF DIRECTION AND OBLIGATION TO ALLOW OTHER VEHICLES TO PASS

The problem

Article 16.2 of the Convention on Road Traffic establishes the way in which a driver is to behave when changing direction and, more particularly, requires him to allow other vehicles to pass.

More specifically, Article 16.2 states that the driver changing direction shall allow to pass:

- a) *Oncoming vehicles on the carriageway he is preparing to leave*: as regards this first part of the sentence the obligation is to allow to pass only oncoming vehicles on the carriageway he is preparing to leave, so the text takes account only of the situation in which there is but one and the same carriageway.

However, the same *road* can comprise a number of carriageways [Article 1(e) of the CRT] and it is clear that those drafting the Convention obviously wanted drivers to allow to pass all oncoming vehicles *even if those on the same road* were travelling on another of its carriageways, whenever the drivers changing direction would cut across the path of the latter vehicles.

Moreover, while the vehicles are indeed oncoming in the case of a left turn, this is not so for a right turn since, in the latter case, the driver who wishes to turn right from the *central carriageway* of a road with three carriageways, will cut across the path of the vehicles moving in the *same* direction as himself.

The proposed amendment takes account of the foregoing.

- b) In addition, Article 16.2 also states that the driver shall allow to pass: "...cycles and mopeds moving on cycle tracks crossing the *carriageway he is about to enter*".

But what is the situation for cycles and mopeds using cycle tracks *running alongside* the carriageway that the driver is preparing to leave to turn right or left?

With reference to the definition of the carriageway, it cannot in fact be claimed that the cycle tracks are part of the carriageway that the driver is preparing to leave or that they cross the carriageway he is about to enter, which implies a more or less marked distance from the intersection.

Article 10.1 bis a) concerning ways, carriageways, lanes and tracks would seem to be explicit in this connection.

Such reasoning would apply irrespective of the direction being taken in traffic by the cyclist.

It is quite clear, however, that those drafting the Convention here too wished drivers changing direction to allow to pass any *oncoming cycles and mopeds on the carriageway they are preparing to leave and also cycles and mopeds using cycle tracks running alongside the carriageway on which the drivers themselves are travelling*. In other words, moving on the same road.

On the other hand, in the case of the carriageway that the driver is about to enter, the practice prevailing in a number of countries requires cyclists and moped riders to yield right-of-way when they cross a carriageway outside of an intersection, a practice that makes the existing text even more ambiguous.

Conclusion

It is proposed that Article 16.2 of the Convention on Road Traffic be worded as follows:

- "2. While changing direction, the driver shall, without prejudice to the provisions of Article 21 of this Convention regarding pedestrians, allow to pass any oncoming vehicles on the carriageway he is preparing to leave and any vehicles travelling on other parts of the same road."

Annex 5

PRINCIPLES FOR A EUROPEAN SYSTEM OF SIGNS FOR TOURIST ATTRACTIONS

On several occasions in recent years the Committee for Road Traffic, Signs and Signals has discussed the question of signs for tourist attractions on the basis of papers describing experiments and regulations in Member countries. These signs are now being used more widely, a process that can be expected to continue as car travel increases, holidays lengthen, more and more services and recreational amenities are provided and regional planning policies promote greater appreciation of the natural, historical and tourist attractions of town and country.

The Committee's discussions have shown not only that there is too much diversity both in the design (shape of sign, symbol features) and in the colours of tourist attraction signs but also that a clearer and more consistent system of signs is needed, at least within the framework of ECMT Member countries.

It would seem that agreement might now at least be reached on a more consistent approach to setting up the signs and on uniform background colours and colour schemes.

With a view to establishing a minimum set of common characteristics for setting up the signs so that they would be easier to identify, it is suggested that the policy to be adopted should follow the five principles of need, safety, proximity, legibility and specificity, principles on which the draft report and draft recommendation below are based.

The Problem

As minimum international bases for consistency in the signing of tourist attractions in Europe, the following principles might be used for reference:

1. Principle of need

Some places may now be provided with many, even too many, signs for tourist attractions, thus perhaps distracting the driver's attention from road signs as such and whatever action he may be required to take, particularly as regards traffic safety. Too many signs might also detract from the value of tourist attraction signs themselves if they were to be used indiscriminately for any services or infrastructures that have no intrinsic value as tourist attractions.

This obligation to keep such signs down to a reasonable number is based on the principle of need: a tourist attraction sign should be installed only where it is essential.

2. Principle of safety

Road signs must always be set up in such a way as to ensure that they never compromise the road user's safety, either because they are in too many places or because a sign regulating traffic is placed next to what is simply an informative or place identification sign.

It is therefore recommended that signs for tourist attractions should never be set up in places where there are already a large number of road signs, especially regulatory signs; the road services responsible must always ensure that road signs take pride of place.

However, the fact that a tourist attraction sign is set up at the proper place will avoid hesitation as to where to go on the part of drivers, so such signs can contribute to road safety.

3. Principle of proximity

It must also be recognised that tourist attraction signs are not to be located too far away from the site, monument or service to which they refer. Accordingly, while it may sometimes seem necessary to provide signs at frequent intervals along the route to a tourist attraction, it should be agreed that such signs should be set up reasonably close to the place to be indicated so as to prevent undue proliferation of signs, though limited numbers of exceptions to this principle could be allowed for an area regarded as of key importance to a whole region, or for an attraction to be reached by a route for which the driver will need regular guidance well in advance.

4. Principle of specificity

Signs for tourist attractions should be differentiated from advertising panels giving notification or advance notification of some establishment, on the one hand, and from signs regulating road use, on the other.

Signs for tourist attractions, which come within the context of informative signs (Annex 5 of the Convention), must be square or rectangular (possibly using the shape of the arrow) only.

Moreover, under the Convention, only white, blue and black, or a combination of these colours, may be used for informative signs. However, certain countries are at present using other colours, especially green, yellow and brown, to meet requirements resulting from the growth of road traffic.

Given the various signs for tourist attractions already experimented with and displayed in a number of countries, it would seem possible to reach agreement on the need to avoid using brown for other than tourist signs. Since several countries continue to use white for a local sequence of signs, white or brown should also be allowed, as should a brown and white scheme. As certain studies (e.g. in the United Kingdom) have shown that road users can recognise a sign that is partly brown as referring specifically to a tourist attraction, it is proposed to settle the matter by conducting experiments based on tests relating to public image and satisfaction with the exclusive use of brown backgrounds. In the meantime, it will be possible to use both white and a white and brown scheme.

It should also be noted that, insofar as the Vienna Convention on Road Signs and Signals has already defined a number of informative signs for tourism purposes, these signs must be used to the exclusion of any other model.

5. Principle of legibility

For a country's own nationals, legibility (in the sense of the unmistakable meaning) of a tourist sign is best achieved by means of an inscription (verbal identification of a tourist region or historical monument). Conversely, to facilitate international traffic, i.e. provide optimum guidance for a foreign road user, internationally recognised symbols understandable to road users of all countries should be used, thereby avoiding reliance on the language of the particular country.

It is therefore desirable that Member countries should so far as possible replace inscriptions by symbols or pictograms on tourist signs, provided of course that the symbols are:

- Unambiguous; and
- Accepted internationally.

Since it would clearly be premature at this point to reach agreement on a list of symbols to be used in common by the various countries, it is proposed as a first stage that Member countries should only use symbols that are distinctive, and therefore clearly recognisable, and also consistent (so that different symbols are not being used for a particular kind of monument or amenity within any one country). At the same time it is suggested that Member countries should take concerted action – in collaboration with the non-governmental organisations primarily concerned – to draw up a list of internationally recognised symbols that might one day be incorporated in international or European instruments relevant to road signs, making a clear distinction between places and services regarded as tourist attractions and other places or services that should be indicated for the road user's convenience but which are not tourist attractions as such.

RECOMMENDATION

It is accordingly suggested that the ECMT Member countries adopt the following Recommendation:

“The Council of Ministers of ECMT, meeting in Luxembourg on 25th and 26th May 1988,

HAVING REGARD to the Vienna Convention on Road Signs and Signals of 8th November 1968 and to the European Agreements supplementing that Convention;

CONSIDERING that, given the increase in tourism travel by road, longer holiday periods, more and more road user services and recreational amenities, together with the efforts made to promote appreciation of the natural and historical heritage for purposes of tourism, there is a need for agreement at European level on at least a minimum set of principles for the signing of tourist attractions;

CONSIDERING however that, as there have so far been no international recommendations in this field and the various countries have therefore adopted different principles as bases for establishing their systems of signing, complete agreement at international level on such principles can only be expected after a transitional period, a period that the countries can use to co-ordinate their efforts with a view to establishing a comprehensive set of uniform rules;

CONSIDERING, nevertheless, that agreement should now be reached on at least a minimum set of essential principles for setting up and identifying signs for tourist attractions;

RECOMMENDS that the competent authorities of Member countries should accordingly:

1. Avoid any undue increase in the number of signs for tourist attractions by prohibiting them in places where they are not plainly useful, thereby ensuring that their value is not impaired and, more importantly, that the attention of road users is not distracted by the presence of too many signs, since the signs of prime importance must be those concerned with specific routing and traffic safety;

2. Refrain from setting up signs for tourist attractions in places where there are already a number of regulatory or informative signs of particular importance to traffic safety, so as not to distract road users from concentrating primarily on traffic regulations and information designed to ensure safety or clarify routing;
3. Set up signs for tourist attractions only within reasonable proximity to the places or centres to be indicated, so as to avoid both making the signs commonplace and providing more of them than are needed to find the way;
4. Clearly differentiate tourist attraction signs from other types of road signs by reserving for them square and rectangular shapes or the shape of the arrow and possibly also giving them a brown background or, failing that, a white background or a brown and white background or a brown and white colour scheme, while ensuring that the informative signs for tourism purposes already provided for by the Vienna Convention on Road Signs and Signals are always used to the exclusion of any other models;
5. As soon as practicable, replace inscriptions on tourist signs by symbols or pictograms, ensuring that these are easy for the road user to understand and, as far as possible, that the various countries use the same ones for the same purpose.

INSTRUCTS the Committee of Deputies, in collaboration with the Committee for Road Traffic, Signs and Signals, to keep track of developments in this connection in Member countries, promote national and international experiments in this field and, where any point calls for an international approach, to consult the non-governmental organisations primarily concerned and, at a later date and on the basis of these experiments and consultations, to propose uniform rules for Europe which, in view of the particular importance at international level of signs for tourist attractions, might subsequently give rise to proposals for their introduction throughout the world”.

Annex 6

CONSISTENCY BETWEEN ROAD SIGNS AND SIGNALS AND ROAD INFRASTRUCTURE

In the light of its collaboration in the revision of the Vienna Conventions on Road Traffic and Road Signs and Signals, which is now being carried out by the United Nations Economic Commission for Europe, the Committee for Road Traffic, Signs and Signals thought it advisable to state its views on the future structure of the Convention on Road Signs and Signals.

The Problem

The Committee notes in this context that road signs, while necessary for imposing obligations on road users, are not in themselves sufficient to fulfil the requirements for road safety and a smooth flow of traffic, since the road user not only proceeds in accordance with the directions and information provided by signs and signals but also adjusts his behaviour according to the characteristics of the road infrastructure. It would therefore seem that road signs and signals and the infrastructure to which they apply should form a coherent whole.

The Committee considers that responsibility in this connection falls, in principle, to the national authorities managing the road network and that it is necessary to promote consistency between road signs and signals and road infrastructure.

It will therefore suggest to the responsible working group (WP1) in the UN/ECE that the possibility of including this principle in the Convention be examined.

The implications of this matter for road traffic safety and the fact that it is currently under discussion at national level in a number of Member countries would seem, moreover, to warrant a more thorough and detailed examination of the issue within ECMT. Accordingly, the Committee proposes that the Council of Ministers should stress the importance of the problem from a policymaking standpoint and instruct the ECMT working groups concerned to study the matter in detail and report their conclusions.

RECOMMENDATION

The Council of Ministers of ECMT, meeting in Luxembourg on 25th and 26th May, 1988;

CONSIDERING that the degree of safety where road infrastructures are concerned depends on their maintenance;

CONSIDERING that recent research, and more particularly that done by the OECD and the Permanent International Association of Road Congresses (PIARC), shows that the improvement of infrastructures calls for the overall planning of the road environment, the focus being on concepts of quality equipment, general or limited accessibility of the network, continuity of routes, the smooth flow of traffic, the homogeneity of traffic, their coexistence and simplicity of messages to the road user;

CONSIDERING in particular that prior studies should be carried out concerning the location, homogeneity and legibility of road signs and signals and that their effectiveness from the standpoint of road safety does not depend on quantity but on quality;

CONSIDERING that, while it is for the local authorities concerned to assume responsibility for improving the infrastructures in their networks, it is however for the central government to ensure that the same safety criteria for the design of roads are used throughout the national territory;

RECOMMENDS to governments:

- To take better account – or encourage local authorities to take better account – of safety considerations from the earliest stage of designing or repairing road infrastructures for any road user category;
- To plan endeavours to make infrastructures safer on the basis of integrated operations covering signs and signals, other safety and regulatory equipment, the layout and profile of carriageways and improvements to the road environment;

- To establish this concept of infrastructure safety likewise on high quality equipment, general or limited accessibility of the network, continuity of routes, smooth flow of traffic, homogeneity of traffic, their coexistence and simplicity of messages to the user;
- To ensure in particular that, before road signs and signals are set up, precise studies are carried out with respect to quality, homogeneity and legibility and to avoid providing too many signs and thereby giving rise to further difficulties from the standpoint of the user's comprehension and, accordingly, the effectiveness of the signs for road safety purposes;

INSTRUCTS the Committee of Deputies to provide it with more detailed proposals at a later date concerning these questions so that common guidelines for infrastructure safety can be laid down for the use of governments.

...the Committee of Deputies should be invited to consider the possibility of establishing a permanent working group on infrastructure safety, which would be entrusted with the task of studying the various aspects of the problem and of proposing to the Committee of Deputies the measures to be taken to improve the situation. It would be desirable that this group should apply a holistic approach to the problem.

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PROPOSALS FOR THE ADJUSTMENT OF THE MULTILATERAL QUOTA AS FROM 1989

(Note by the Secretariat)

[CM(88)28 final]

Notes were submitted to the Council of Ministers at its sessions on 25th/26th May and 29th November, 1988 which set out proposals for the adjustment of the ECMT multilateral quota. These proposals, drawn up in 1987 by the ad hoc Group concerned, essentially involved two approaches, the first relating to a new pattern of allocation of the quota among Member countries, the second to an adjustment of the system in the context of an overall increase.

The present note sets out only the information on the points on which agreement was reached at the Council's November 1988 session.

The Council of Ministers adopted an increase of 20 per cent in the quota as from 1st January 1989, with a minimum of 8 additional licences issued to each Member country with the exception of Greece, Turkey and Yugoslavia which receive 16 additional licences. This decision results in an increase of 966 to 1179 units.

Austria maintained its previous position, i.e. status quo. Turkey and Yugoslavia, for their part, maintained their "reciprocity" reservation, whereby the maximum number of licences valid on their territory for any country must be the same as that available to themselves.

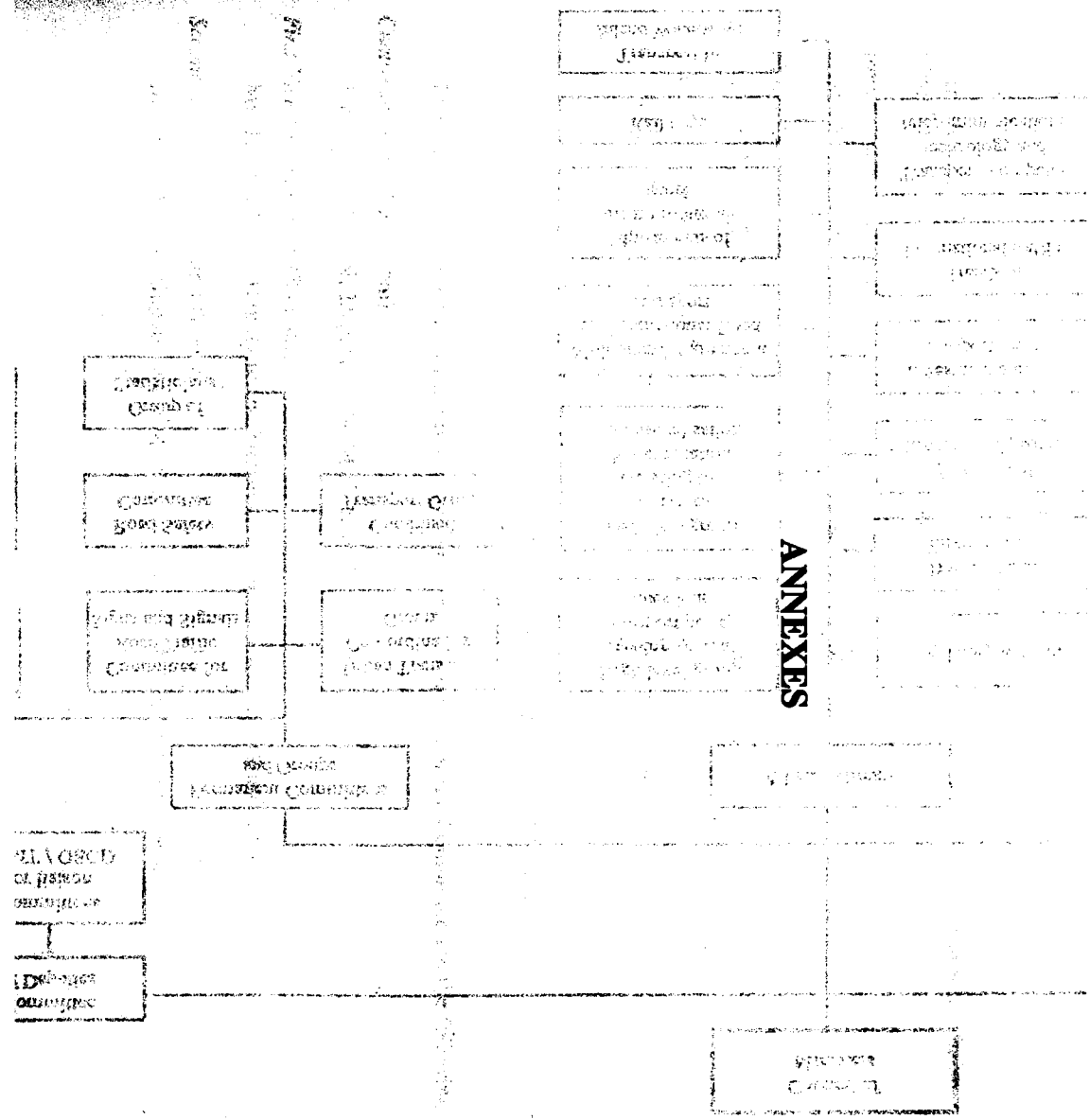
Annex

SIZE AND PATTERN OF ALLOCATION OF THE MULTILATERAL QUOTA

As from 1st January, 1989

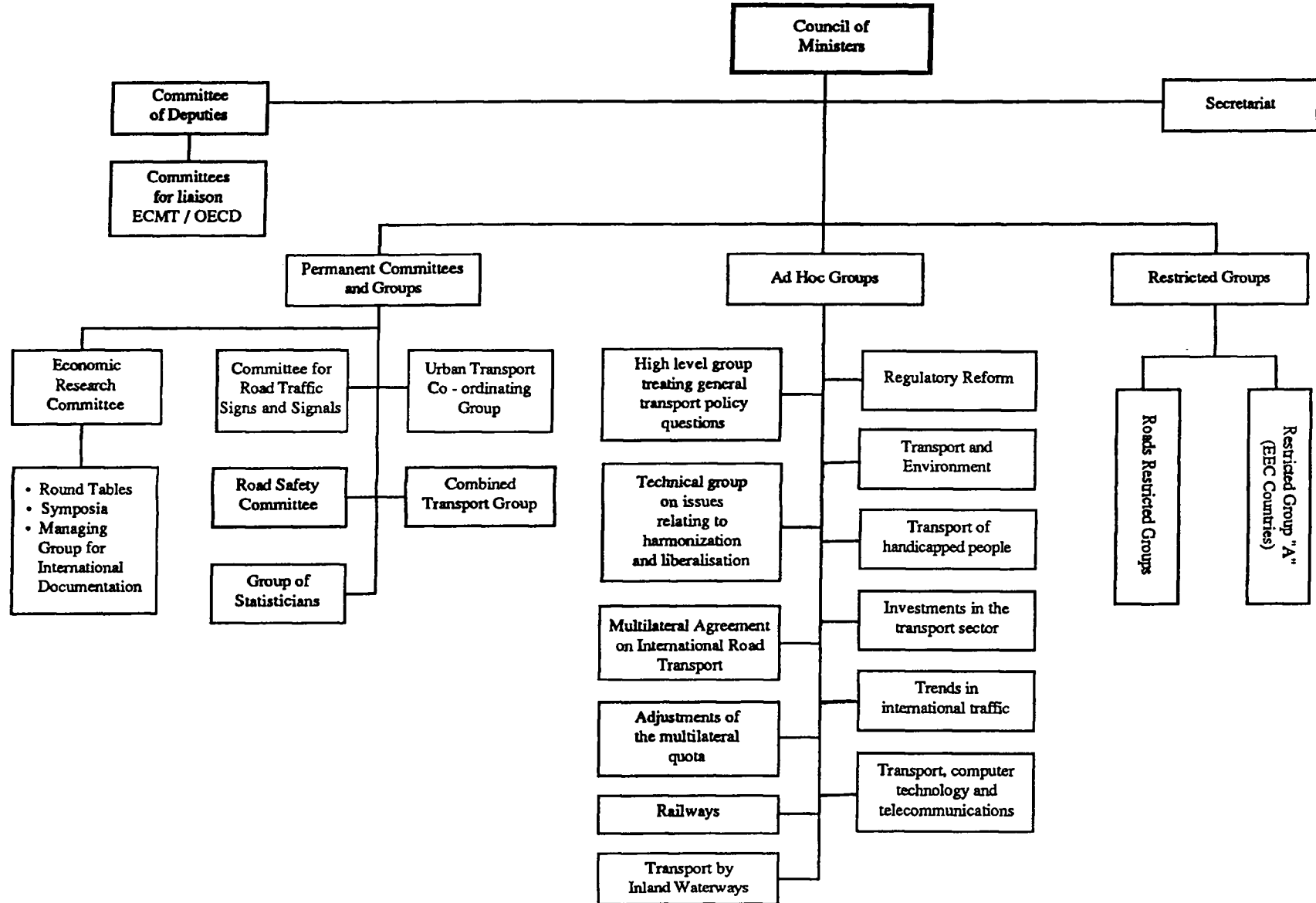
Serial No.	Member country	Number of licences	
		Situation existing in 1988	Situation as from 1st January 1989
1	Federal Republic of Germany D	112	134
2	Austria ¹ A	16	16
3	Belgium B	56	67
4	Denmark DK	46	55
5	Spain E	48	58
6	Finland SF	42	50
7	France F	94	113
8	Greece GR	42	58
9	Ireland IRL	39	47
10	Italy I	56	67
11	Luxembourg L	39	47
12	Norway N	42	50
13	Netherlands NL	77	92
14	Portugal P	39	47
15	United Kingdom GB	48	58
16	Sweden S	43	52
17	Switzerland CH	44	53
18	Turkey ² TR	39	55
19	Yugoslavia ³ YU	44	60
TOTAL		966	1 179

1. A maximum of 16 licences per Member country are valid on Austrian territory.
2. A maximum of 55 licences per Member country are valid on Turkish territory.
3. A maximum of 60 licences per member country are valid on Yugoslav territory.



ANNEXES

ECMT ORGANISATION CHART AS FROM JANUARY 1988



Annex II

LIST OF OFFICERS OF THE ECMT

OFFICERS OF THE COUNCIL OF MINISTERS

In accordance with the provision of Article 1 a) of the Rules of Procedure, the Council of Ministers elected the following Officers at its session of 29th November, 1988.

Chairman (United Kingdom)

Mr. M. PORTILLO, Minister of State, Department of Transport

First Vice-Chairmanship (Sweden)

Mr. S. HULTERSTRØM, Minister for Transport and Communications

Second Vice-Chairmanship (Turkey)

Mr. E. PAKDEMIRLI, Minister for Transport and Communications

OFFICERS OF THE COMMITTEE OF DEPUTIES

In application of Article 3 of the rules of Procedure, the Officers of the Committee are the following:

Chairman (United Kingdom)

Mr. J. NOULTON, Deputy to the Minister of Transport.

First Vice-Chairmanship (Sweden)

Mr. R. WIBERG, Deputy to the Minister of Transport and Communications.

Second Vice-Chairmanship (Turkey)

Mr. Y. DINCER, Deputy to the Minister of Transport and Communications.

Annex III

LIST OF DELEGATES AT THE LUXEMBOURG AND PARIS SESSIONS

Austria

Mr. R. STREICHER	Federal Minister of Public Economy and Transport
Mr. K. HALBMAYER	Director-General Federal Ministry of Public Economy and Transport (Deputy to the Federal Minister)
Mr. G. HANREICH	Director-General Federal Ministry of Public Economy and Transport (Deputy to the Federal Minister)
Mrs. E. KUBARTH**	Ministerial Councillor Federal Ministry of Public Economy and Transport
Mr. P. KLUGAR*	Secretary to the Federal Minister

Belgium

Mr. J. L. DEHAENE*	Minister of Communications
Mr. R. BAELE	Secretary-General of the Ministry of Communications (Deputy to the Minister of Communications)
Mr. F. DE WOLF	Director-General Transport Administration Ministry of Communications
Mr. E. KIRSCH*	Head of Private Office Ministry of Communications
Mr. R. BRULARD**	Counsellor Permanent Delegation of Belgium to OECD

Denmark

Mr. J. L. HALCK	Secretary of State Ministry of Transport and Communications, (Deputy to the Minister of Transport and Communications)
Mr. L. K. LYKSTOFT	Head of Division Ministry of Transport and Communications
Ms B. MAEGAARD*	Ministry of Transport, Communications and Public Works

Finland

Mr. P. VENNAMO	Minister of Communications
Mr. J. KORPELA	General-Secretary Ministry of Communications (Deputy to the Minister)

* Luxemburg session
** Paris session

Finland (Cont'd)

Mr. M. LEHTINEN**
Counsellor for International Affairs
Ministry of Communications

Mr. R. LAMPINEN*
Head of Division
Ministry of Communications

Mr. P. KETTUNEN
Political Secretary
Ministry of Communications

France

Mr. M. DELEBARRE*
Minister of Transport and Maritime Affairs

Mr. J. ROBERT*
Deputy Director
Ministry of Transport and Maritime Affairs
(Deputy to the Minister)

Mr. F. COMMEAU*
Inspector General for Transport and Public Works
Ministry of Transport
(Deputy to the Minister of Transport)

Mr. C. MALAURIE
Inspector General for Transport
Ministry of Transport and Maritime Affairs

Mrs A. ROY
Chargée de Mission
Ministry of Transport and Maritime Affairs

Mr. DELARUE**
Deputy Director of the Minister's Private Office

Mr. D. FERRAND**
Deputy Permanent Representative of France to OECD

Germany

Mr. J. WARNKE
Federal Minister of Transport

Mr. C. MEYER**
Ambassador, Permanent Representative of the F.R. of Germany to OECD

Mr. H. SANDHÄGER
Director General
Federal Ministry of Transport
(Deputy to the Minister)

Mr. REINHARDT*
Director General
Federal Ministry of Transport

Mr. I. JOERSS
Ministerial Counsellor
Federal Ministry of Transport

Mr. F. von PETER*
Ministerial Counsellor
Federal Ministry of Transport

Mr. U. SCHOLZ**
Counsellor
Federal Ministry of Transport

Mr. E. MÄEGELE**
Counsellor
Permanent Delegation of F.R. of Germany to OECD

Greece

Mr. J. KOUTSOYANNIS**
Secretary of State
Ministry of Transport

Mr. A. ROUSSOPOULOS
Secretary-General for Transport
Ministry of Transport
(Deputy to the Minister of Transport)

Mrs E. PAPADAVID**
Counsellor Ministry of Transport

Mr. C. POLYDOROPOULOS*
Director
Ministry of Transport and Communications

* Luxemburg session

** Paris session

Greece (Cont'd)

Mr. E. VASSILAKOS	Director Ministry of Transport and Communications
Mr. J. TSAKALAKIS**	Director Ministry of Transport
Mr. V. NOTIS	Permanent Delegation of Greece to OECD
Mrs M. MENAGIA**	Interpreter

Ireland

Mr. J. WILSON	Minister for Tourism and Transport
Mr. T. POWER	Assistant Secretary Department of Tourism and Transport
Mr. P. O'DUFFY	Assistant Secretary Department of the Environment
Mr. B. TOOMEY	Principal Officer Department of Tourism and Transport

Italy

Mr. L. FONTANA GIUSTI**	Ambassador, Permanent Representative of Italy to OECD
Mr. G. ZAMPOGNARO*	Attaché, Private Office of the Minister of Transport (Deputy to the Minister of Transport)
Mrs A-M. CUPPONE*	Attachée, Private Office of the Minister of Transport
Mr. L. LAURETTI**	Director, Permanent Delegation of Italy to EEC/Brussels
Mrs L. CIAMPOLI**	Member of the Private Office of Minister of Transport

Luxembourg

Mr. M. SCHLECHTER	Minister of Transport, Public Works and Energy [Chairman]
Mr. J. MORBY	Governmental Counsellor Ministry of Transport, Public Works and Energy (Deputy to the Minister)
Mr. P. BASTENDORFF	Principal Inspector Ministry of Transport, Public Works and Energy
Mr. P. SCHMIT*	Directorate Counsellor Ministry of Transport, Public Works and Energy
Ms J. HOFFMANN**	Head of Office Ministry of Transport, Public Works and Energy

Netherlands

Mrs N. SMIT-KROES*	Minister of Transport and Public Works
Mr. B. van WESTEROP	Deputy-Director Ministry of Transport and Public Works

* Luxembourg session
** Paris session

Netherlands (Cont'd)

Mr. F. BOS Head of Department
Ministry of Transport and Public Works

Mr. A. BAANDERS* Head of Division
Ministry of Transport and Public Works

Norway

Mr. W. ENGSETH** Minister of Transport and Communications

Mr. E. RIBU Secretary-General
Ministry of Transport and Communications

Mr. A. D. LOTHE Director-General
Ministry of Transport and Communications
(Deputy to the Minister)

Mr. P. CHAUVIN Adviser
International Secretariat
Ministry of Transport and Communications

Mr. T. CRISTOFFERSEN** Political Adviser to the Minister

Mrs S. GREFSRUD Secretary
Ministry of Transport and Communications

Portugal

Mr. J. OLIVEIRA MARTINS** Minister of Public Works, Transport and Communications

Mr. C. da SILVA COSTA Secretary of State for Inland Transport

Mr. A. AIRES General-Inspector
High Council of Public Works and Transport
(Deputy to the Minister of Public Works, Transport and Communications)

Mr. A. ARAGAO BOTELHO** General Director
European Communities Office

Spain

Mr. J. BARRIONUEVO** Minister of Transport, Tourism and Communications

Mr. A. CABALLERO* Minister of Transport, Tourism and Communications

Mr. J. A. LOPEZ ZATON** Ambassador, Permanent Representative of Spain to OECD

Mrs. R. FERNANDEZ DURAN* Technical General-Secretary
Ministry of Transport, Tourism and Communications
(Deputy to the Minister)

Mr. J. MARTINEZ AREVALO** Technical General-Secretary
Ministry of Transport, Tourism and Communications
(Deputy to the Minister)

Mrs S. PALACIOS** Technical General-Secretary
Ministry of Transport, Tourism and Communications

Mr. M. PANADERO** General Director of Inland Transport
Ministry of Transport, Tourism and Communications

Mrs M.J. GOMEZ* Deputy Director-General
International Cooperation
Ministry of Transport, Tourism and Communications

* Luxemburg session

** Paris session

Spain (Cont'd)

Mr. A. LOPEZ IBOR**	Minister-Counsellor Permanent Delegation to OECD
Mr. M. A. de FRUTOS**	Counsellor Permanent Delegation of Spain to OECD
Mr. A. MONFORT*	Adviser to the Minister of Transport, Tourism and Communications
Mr. MARTINEZ**	Head of the Minister's Private Office

Sweden

Mr. S. HULTERSTRØM	Minister of Transport and Communications [Second Vice-Chairman]
Mr. B. KJELLEN	Ambassador, Permanent Representative of Sweden to OECD
Mr. B. HOLMBERG**	General Director of Road Research
Mrs. G. FÄRM	Secretary of State Ministry of Transport and Communications
Mr. R. WIBERG	Director Ministry of Transport and Communications (Deputy to the Minister)
Mrs M. PALM	Information Officer Ministry of Transport and Communications
Mrs B. CADDEO	Administrative Officer Ministry of Transport and Communications
Mr. L. NILSSEN**	Counsellor of Embassy

Switzerland

Mr. A. OGI	Federal Counsellor Minister of Transport, Communications and Energy
Mr. F. BÜRKI	Director Federal Transport Office
Mr. G. CHAPPUIS	Counsellor on International Affairs Federal Transport Office (Deputy to the Minister of Transport, Communications and Energy)
Mr. M. FURRER	Private Counsellor to the Minister
Mr. L. ZÜND	Head of Road Traffic Division Federal Police Office (Deputy to the Minister of Justice and Police)
Mr. R. ZIMMERMANN	Deputy Scientific Adviser Federal Transport Office
Mr. P. SUTER	Press Counsellor

Turkey

Mr. E. PAKDEMIRLI	Minister of Transport and Communications
Mr. Y. DINCER	Deputy Under-Secretary Ministry of Transport and Communications (Deputy to the Minister)
Mr. B. ERDAL**	General Director of the Turkish State Railways (TCDD)
Mr. N. GUNAY*	Director Private Office of the Minister

* Luxemburg session

** Paris session

Turkey (Cont'd)

Mr. I. AYAS* Adviser
Ministry of Transport and Communications

Mr. B. YILMAZ** Counsellor
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Mr. D. MITCHELL* Minister of State
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[First Vice-Chairman]

Mr. M. PORTILLO** Minister of State
Department of Transport
[First Vice-Chairman]

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(Deputy to the Minister of State)

Mr. P. EMMS** Head of International Transport Division
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Mrs K. NASH-BROWN** Principal
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Ms. J. JONES* International Transport Division
Department of Transport

Mr. M. PITWOOD* Railways Division
Department of Transport

Yugoslavia

Mr. D. DANEV** Vice-President of the Federal Committee of Transport and Communications

Mr. A. GRAHOR* Vice-President of the Federal Committee of Transport and Communications

Mr. M. IVKOVIC Counsellor and Deputy to the President of the Federal Committee of Transport and Communications

Mr. T. JANKOVIC** Ambassador, Head of the Permanent Delegation of Yugoslavia to OECD

Mr. P. NOVAKOVIC** Interpreter

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* Luxemburg session
** Paris session

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Ottawa, Ontario

Mrs S. LAPORTE* Counsellor,
Permanent Delegation of Canada to OECD, Paris

Mr. K. O'SHEA** Counsellor
Permanent Delegation of Canada to OECD

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Mr. Ch. WESSNER** Advisor
Permanent US Mission to OECD

Mrs W. DEMOCKER* Press Secretary
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Mr. S. NAKAJIMA* Director General
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Mr. H. TOYA** Director, Policy Division
International Transport and Tourism Bureau
Ministry of Transport and Tourism, Tokyo

Mr. Y. HOMPO** First Secretary (Transport)
Permanent Delegation of Japan to OECD

Mr. HATSUTANI Chief of Policy Division
Ministry of Construction

Mr. H. HORA* Counsellor
Permanent Delegation of Japan to OECD

Mr. T. SUGA Advisor
Ministry of Transport, Tokyo

INTERNATIONAL ORGANISATIONS

Commission of the European Communities

Mr. E. PENA Director-General

Mr. J. d'ELBREIL Head of Division

Mr. D. STASINOPOULOS** Principal Administrator

* Luxembourg session

** Paris session

Council of the European Communities

Mr. D.M. NELIGAN Director-General
Mr. H. SCHMIDT-OHLENDORF Director

Secretariat

Mr. J. TERLOUW Secretary-General
Mr. G. AURBACH Deputy Secretary-General
Mr. A. DE WAELE** Head of Division
Mr. A. RATHERY Principal Administrator
Mr. J. SHORT Principal Administrator
Mr. M. VIOLLAND** Administrator
Mrs S. FOUVEZ Administrator

* Luxembourg session
** Paris session

Annex IV

PARLIAMENTARY ASSEMBLY OF THE COUNCIL OF EUROPE

Thirty-ninth ordinary session

RESOLUTION 893 (1988) (1)
in reply to the 32nd and 33rd annual reports
of the European Conference
of Ministers of Transport (ECMT)

The Assembly,

HAVING taken note of the 32nd and 33rd annual reports of ECMT (Doc. 5755), the report by its Committee on Economic Affairs and Development in reply thereto (Doc. 5827), and the opinion presented by its Committee on the Environment, Regional Planning and Local Authorities (Doc. 5836);

RECALLING its Resolutions 766 (1982), 815 (1984) and 858 (1986) on the activities of ECMT;

NOTING that in 1986 goods traffic by road, inland waterways and oil pipelines increased, whereas rail transport showed a further decline in respect of both goods and passenger traffic;

CONSIDERING that any transport policy in Europe should be designed at the level of Western Europe as a whole, and that ECMT is the organisation best placed to involve its non-Community member countries in the completion of the internal market planned for 1 January 1993;

WELCOMING the progress made towards the building of the cross-Channel fixed link and the agreement reached on 26 October 1987 between the Transport Ministers of Belgium, France, the Federal Republic of Germany, the Netherlands and the United Kingdom on the future North European high-speed train (TGV) network, for which it had appealed in its Resolution 876 on a European high-speed train network, adopted on 7 May 1987;

DISTURBED by the two conflicting trends which have been noticeable for some ten years in the transport sector, namely a decline in investment in land transport infrastructure and, at the same time, a constant rise in the volume of traffic, which lead one to expect an increase in the number of bottlenecks and the saturation of existing infrastructures;

BELIEVING THAT, for environmental and energy conservation reasons in particular, more of this traffic should be absorbed by the railways, inland waterways and combined transport;

CONSIDERING that ECMT should intensify its co-ordinating role in the negotiations being prepared between the European Community and Austria, Switzerland and Yugoslavia on transit traffic;

CONCERNED at the divergent developments in policies for financing road infrastructures, in particular the introduction of motorway and other tolls;

DEPLORING the disappointing results in most ECMT member countries of "European Road Safety Year" (1986), especially in view of the increase in the number of road accidents and casualties;

CONCERNED about the eventual consequences of the anarchic development of urban traffic with regard to pollution, safety, regional development and population movements away from urban centres;

BELIEVING that the over-capacity of inland shipping and the inadequacy of investment in inland waterways are likely to discourage the efforts of a changing sector, implying continued co-operation with a view to harmonisation at ECMT level;

INVITES the member states of the Council of Europe:

- a) To make full use of the possibilities of ECMT for consultation and co-ordination in all aspects of transport policy which go beyond the purely national level;
- b) To involve ECMT as closely as possible in all bilateral or multilateral negotiations on transport matters;
- c) In particular, to strengthen ECMT's role and scope for action so as to ensure a coherent European policy regarding transport between member and non-member countries of the European Economic Community;

INVITES ECMT to address itself more resolutely to the major problems facing a real European transport policy, taking into account the following;

- a) The plan for a major European network of highspeed rail links should be actively promoted;
- b) Close attention should be given to branch lines so as to ensure greater regional balance as well as fuller utilisation of main lines;
- c) The taking into account of political and social profitability, as well as strict financial profitability, cannot be absent from a European policy on investment in transport infrastructure;
- d) The search for global solutions to the problems of communications across the Alps and the Pyrenees;
- e) The public authorities cannot abdicate their responsibilities and duties towards society by leaving the financing of major infrastructure to the private sector alone, at the risk of increasing a harmful fragmentation of major European projects;
- f) A united approach should be adopted to research and innovation in transport, particularly in the context of Eureka;
- g) The problems and difficulties facing sub-regional and inter-urban traffic in its complementary role with regard to the mobility of persons and goods cannot be ignored, while harmonisation of the action of the various means (taxis, automated urban transport systems, buses and transport for people with reduced mobility, pedestrian zones and parking facilities, exclusive lanes, etc.) is necessary not only at ECMT level, but also at that of national governments and local authorities;

WITH REGARD TO environmental problems, invites the ECMT bodies:

- a) To make practical proposals in the near future regarding the provision of sales points throughout Europe for unleaded petrol;
- b) To take an active part in the investigation of ways of introducing electric vehicles for urban transport;
- c) To consider the possibility of holding a joint conference of ECMT ministers and the Council of Europe's Ministers responsible for the Environment;

APPEALS TO ECMT and its member states to take practical and effective road safety measures concerning not only the setting of uniform traffic standards in Europe, but also vehicle security and user behaviour;

URGES ECMT to adopt guidelines as soon as possible for the harmonisation of transport regulations and taxes in Europe with a view to creating conditions of competition enabling the internal market to be completed in Europe;

ASKS the governments of the member states of the Council of Europe and ECMT to give preference to combined transport in their policies, making the fullest possible use of the opportunities afforded by the railways and inland waterways, and, to that end, to take further initiatives to complete and modernise transport infrastructure networks in Europe:

- a) Where rail transport is concerned, by giving urgent priority to:
 - i) The creation of the following lines:
 - A Paris-Strasbourg-Stuttgart-Munich-Vienna high speed railway line;
 - A Paris-Dijon-Lausanne-Brigue-Milan-Venice line by first re-establishing a direct line between Paris and Milan via Dijon and Lausanne;
 - Lines across the Pyrenees, in keeping with the spirit of the Malaga Declaration adopted at the end of the 2nd Conference of Mediterranean Regions (16-18 September 1987), with a view to optimising North-South links;
 - ii) The creation of transalpine railway links, both in Switzerland and in Austria;

- b) Where East-West high-speed railway links are concerned, by paying attention to the need for such links in the light of further progress towards East-West détente;
- c) Where road infrastructure is concerned, by speeding up the development of the Central Europe-Atlantic route and a South-West Europe link;

REITERATES the appeal issued to the governments of member states in Resolution 815 (1984) with regard to the establishment of regular dialogue through parliamentary debates on the implementation of the various resolutions adopted by the ECMT Council;

INSTRUCTS its Committee on Economic Affairs and Development and its Committee on the Environment, Regional Planning and Local Authorities to take all the necessary initiatives to promote the implementation of a real European transport infrastructure policy.

NOTES

1. Text adopted by the Standing Committee, acting on behalf of the Assembly, on 23 March 1988.

See Doc. 5755, 32nd and 33rd reports of ECMT, Doc. 5827, report of the Committee on Economic Affairs and Development, and Doc. 5836, opinion of the Committee on the Environment, Regional Planning and Local Authorities.

Annex V

**REPORT TO THE GOVERNMENTS OF THE SIGNATORY COUNTRIES OF THE
EUROFIMA AGREEMENT**

Fiscal Year 1988

Contrary to the great concern following the stock market crash of 1987, the year 1988 has brought a number of satisfactory developments in both economic and financial areas. In particular, growth has been maintained globally, without too great an increase in inflation; international trade was also marked by strong expansion, accompanied by a certain improvement in the world's large imbalances. However fears of a revival of inflation and the increase, irregular yet strong, of the dollar, led the monetary authorities to adjust to higher interest rates, particularly in the latter half of the year.

The volume of issues in the capital markets increased by 20 per cent over that of the previous year and EUROFIMA was able to offer a record amount of funds to its participating member railways, i.e. 3 149 million Swiss francs, according to exchange rates on 31st December, 1988 compared with 2 719 million in 1987). After deducting 117 million Swiss francs for financing from the previous year and 482 million Swiss francs attributed to refinancings, the net amount of new financings increases to 2 550 million Swiss francs, an increase over last year's, even at a lower growth rate than that prevailing in 1987.

These funds were used to finance 415 main-line locomotives, 70 shunting locomotives, multiple-unit trains (56 motor units, 10 trailer cars), 916 passenger cars and 8 876 freight cars, 6 946 of these with bogies.

The results show a surplus of 31.5 million Swiss francs, an increase of nearly 1 million from the preceding year, which will allow the distribution of the statutory dividend to the shareholders and a substantial allocation to the reserves.

In order to maintain a satisfactory balance structure, a capital increase from 750 to 1 050 million Swiss francs has been decided for 1990.

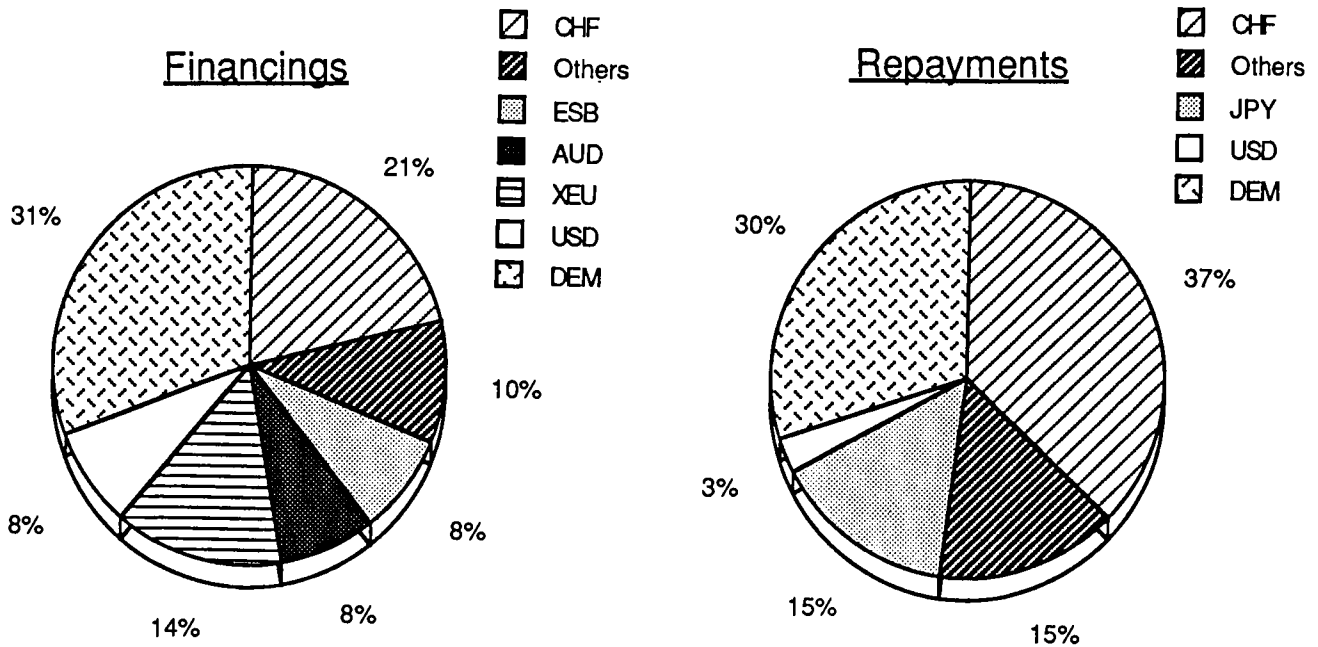
DEVELOPMENT OF FINANCINGS

The funds raised (3 149 million Swiss francs) were composed of:

- Income from 22 public and private issues floated in the German and Swiss markets, as well as in the international market, totaling an equivalent of 2 860 million francs;
- Loans and credits representing 289 million francs.

The total amount is divided as follows: 31 per cent in German marks, 21 per cent in Swiss francs, 14 per cent in ECU, 8 per cent in US dollars, 8 per cent in pesetas, 8 per cent in Australian dollars and 10 per cent in other currencies. This represents a significant increase in the amount in German marks from last year, while that in yen has disappeared.

DISTRIBUTION ACCORDING TO CURRENCY (In percentage of total amount)



Repayments, calculated on the balance sheet date, represent an equivalent of 1 186 million francs, divided among the following currencies: 37 per cent Swiss francs, 30 per cent German marks, 15 per cent yen, 3 per cent US dollars and 15 per cent other currencies.

Rolling stock financed

The rolling stock financed, as well the total amounts involved in the contracts – indicated in Swiss francs – are given below for each national railway.

Country	Railway	Locomotives			Multiple-unit trains			Passenger cars	Freight cars		Amount of financings in million francs
		Main-line		Shunting	Motor units		Trailer cars		With individual axles	With bogies	
		Diesel	Electr.		Diesel	Electr.					
F. R. Germany	DB		2			15		232	1 412	6 085	979
France	SNCF		260							47	360
Italy	FS							558	264	75	597
Belgium	SNCB							42		274	52
Netherlands	NS		15			6		27			84
Spain	RENFE	28	63	20		35	3			200	251
Yugoslavia	JZ		17	31				28	36	22	58
Sweden	SJ								150		10
Austria	OeBB		2	7				29	68	243	106
Portugal	CP	28		12			7				53
Total		56	359	70		56	10	916	1 930	6 946	2 550

The table included in the appendix shows the amount of EUROFIMA's financings compared with the investments in rolling stock for those national railways participating regularly in the company's transactions.

Portion of the member railways' rolling stock investments financed by EUROFIMA 1984-1988

Only for railways participating regularly in the company's financings 1984-1988
(equivalent in million Swiss francs)

Railway	1984	%	1985	%	1986	%	1987	%	1988	%
DB	343 ¹	59	344	66	481	83	595	91	979	74
	585 ²		521		555		653		1 314	
SNCF	331	47	354	58	351	73	318	75	360	44
	707		609		478		423		820	
FS	288	23	271	19	287	91	555	42	597	35
	1 261		1 417		317		1 331		1 699	
SNCB	112	39	79	41	72	26	121	75	52	77
	285		191		278		161		67	
NS	52	21	22	16	135 ⁴	116	173 ⁴	194	84	57
	248		139		116		89		147	
RENFE	51	22	55	82	50	37	241 ⁴	488	250	94
	231		67		134		50		265	
JZ	40	33	37	92	37	80	61	88	58	93
	121		40		46		69		62 ³	
SJ	12 ¹	4.8	13	9.6	12	7.7	16	8.1	10	8.4
	247 ²		135		156		198		119	
OeBB	54	16	61	21	59	24	75	46	106	58
	332		297		241		164		182	
CP	—	—	—	—	11	31	46 ⁴	120	53 ⁴	120
	—		—		36		38		44	

1. Portion financed by EUROFIMA.
2. Total rolling stock investment of the railway.
3. Provisional figures.
4. Including financings of previous and future investments.

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