

EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

VOLUME I

(25th Annual Report-1978)

TRANSPORT AND THE ACTIVITY OF THE CONFERENCE

GENERAL REPORT ON ACTIVITY

(YEAR 1978)



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The European Conference of Ministers of Transport (ECMT) was instituted by a Protocol signed at Brussels on 17th October 1953. It comprises the Ministers of Transport of the following 19 countries : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and Yugoslavia (associated countries : Australia, Canada, Japan, United States).

The purposes of the ECMT are :

- to take whatever measures may be necessary to achieve, at general or regional level, the maximum use and most rational development of European inland transport of international importance ;*
- to co-ordinate and promote the activities of International Organisations concerned with European inland transport (rail, road, navigable ways), taking into account the work of supranational authorities in this field.*

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Part I

GENERAL ACTIVITY

TWENTY-FIFTH ANNUAL REPORT OF THE E.C.M.T.

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Chapter I

STRUCTURE AND PROCEEDING OF THE CONFERENCE

The year 1978 was a particularly important one in the Conference's career; it was the 25th anniversary of the institution of the Conference on 17th October, 1953. This event was celebrated at the 47th session of the Council of Ministers of the ECMT on 31st May and 1st June, 1978 in Brussels where the Protocol setting up the Conference had been drafted and signed 25 years before. This was also an opportunity for a formal meeting attended by the governmental organisations with which the ECMT keeps in close touch because of their activities which have a bearing on transport at European level. The Organisation for Economic Co-operation and Development, the European Economic Community and its Commission, the United Nations Economic Commission for Europe, the Council of Europe and the Eurofima Company were represented on this occasion and their spokesmen more particularly referred to their relations with the ECMT and its work. The *Prévention Routière Internationale* also attended this formal meeting and represented the non-government organisations. The speeches made by the representatives of the foregoing organisations have since been published in a special booklet.

The second session of the Council of Ministers in 1978 was held on 12th December in Paris.

The Officers of the Conference for the year 1979 were elected on this occasion, namely, the Yugoslav Minister who is President of his country's Federal Transport and Communications Committee (Chairman), the Minister of Transport of the Federal Republic of Germany (1st Vice-Chairman) and the Minister of Communications of Finland (2nd Vice-Chairman).

This celebration of its 25th anniversary was a timely occasion for the Conference to review its work the past years and seek ways and means of promoting the future organisation of inland transport in Europe in accordance with its Protocol. This review, embracing the factors and prospects which should shape the future course of transport policy in the European area within the ECMT's jurisdiction, induced the Conference to modify its organisational and working arrangements so that they may be flexible enough to tackle real problems from as practical an angle as possible.

1. The aims of the structural adjustment

In the light of the report and the resolution they adopted at the meeting of the Council in Brussels (a complete copy of this report and resolution is published in the second volume of this annual report) the Ministers, anticipating the organisational and structural adjustments that the ECMT required, were concerned to enable the Conference to go on working effectively in the present economic and social context of the transport sector, having also regard to its prospects.

It was accordingly judged appropriate to proceed in such a way that the ECMT could concentrate on certain aspects of its work in connection with problems relating to transport which are far more acute than they were in the past, or will become so. As mentioned in the report, they include :

- "European integration at the political economic and social levels.
- The growing interdependence of transport modes and the importance assumed by various transport processes inevitably involving inter-modal co-operation.
- Transport labour cost and employment problems, bearing in mind that these are anxious and vital issues throughout the whole sector.
- The need to provide a better link between the problems examined from a theoretical angle by economic research and the practical policy concerns of the Council, but also bearing in mind that research must be left some degree of interdependence if it is to make progress.
- The need to give wider coverage than at present to the technical research field, notably by using the studies conducted elsewhere in order to work out their economic and transport implications and help towards political decision-making.
- Factors extraneous to transport, such as the environment, energy and regional planning when studying the transport sector "

Consideration was then given to the question of relations between the ECMT and other international organisations concerned with transport. This point is dealt with in Chapter III below.

However the kind of problems to be dealt with and how they should be tackled together constituted the essential basis for the structural adjustments decided upon. Analysis of these problems shows that conceivable solutions to them very often go beyond the scope of a particular mode and that the proper adjustment of transport supply to transport needs must be sought by an overall inter-modal approach. The following points are relevant in this connection :

- "Seeking ways of raising productivity and commercial viability of each mode.
- Advantages and disadvantages of policies affecting modal split.
- Labour cost and employment.
- Marketing policies.
- Transport costs and pricing.
- Disparities in terms of competition.
- Infrastructure policy and rational use of transport networks.
- More effective use of modal complementarity and of combined transport systems, including investigation of the impact of modes transport not usually examined by the Conference on the three inland modes.
- Technical research on the various transport systems and analysis of the economic implications."

This does not mean that a specifically modal approach is rejected in all cases. There are still many fields where the action needed concerns a particular mode. The ECMT's past, present and future work in this connection remains just as useful as ever. However, we are now confronted with structural problems concerning the organisation of transport in Europe which cannot be resolved otherwise than by an overall approach. Such problems may be general, regional or local, but since available resources are limited it is necessary to make optimal use of what each mode can offer.

2. *Structural adjustments*

Having regard to the ECMT's responsibilities concerning the transport problems to be dealt with from the foregoing angles, structural adjustments were envisaged with an eye to the following objectives :

- To enable the Ministers of the Conference to tackle transport problems from a concrete angle and at a level commensurate with their political responsibilities.

- To strengthen the role of the Committee of Deputies as regards the control of ECMT activities and the preparation of Ministerial meetings.
- To introduce structural arrangements whereby problems may be tackled practically and realistically.

At its meeting in Brussels, the Council considered that these aims could be attained without amending the 1953 Protocol since its provisions allow scope for the suggested measures.

As already pointed out, the ECMT's main concern will be to enable the Council of Ministers, as the governing body of the Conference to examine the problems at issue and define solutions at the policy level and within the policy framework which properly belongs to the Ministers.

It is in this spirit (according to a line of thinking adopted for some years) that Council meetings will be organised so that Ministers may be both able to consider transport policy guidelines jointly and also take effective decisions on practical issues which must be settled in order to deal with the facts of a particular case. Thus, what this implies is a way of looking at things which reconciles as part of an "operational" approach, the exploration of general lines of action concerning transport policy from a long term angle together with the application of measures matching the particular aspects and needs of an immediate or directly predictable situation.

The "forward-looking" approach to problems will be catered for by arranging, at certain meetings of the Council of Ministers, a general discussion on an important topic and – notably by exchanging information on the concerns and policies of ECMT countries, and by confronting suggestions or intentions – this should make it possible to trace the right courses of action.

Very careful attention will be given to a concrete approach since it is important that the work of the Conference should lead to decisions which provide solutions to, or ways of solving, problems as they really are. It must be one of the essential tasks of the **Committee of Deputies** to organise the meetings of the Council of Ministers on meetings on these lines since it is the Committee's direct responsibility to ensure the proper preparation of Council meetings and to determine the action to be taken on Ministers' discussions and decisions. The Committee must be in a position to carry out this task to the fullest extent.

For these reasons – apart from the role of the Officers of the Committee of Deputies who are representatives of three Delegations of Member countries – it has been decided to appoint a **Steering Committee** which, in addition to the Delegations from which the Officers are drawn – will comprise three other Delegations selected in such a way that there will be a fair balance between EEC Member and non-Member countries, and that there will also be well-balanced representation of the various geo-economic situations of ECMT countries. Members of the Committee will be designated by a roster system which provides for the necessary continuity of action besides enabling all Delegations to take part in turn.

The task of the Steering Committee will be to submit to the Committee of Deputies proposals concerning :

- Action to be taken on Ministers' discussions and decisions and meetings of the Council.
- Adjustment of the work of subsidiary bodies to match the aims of the Conference.
- General supervision of the activities of the Conference and its Secretariat.
- Establishment of relations with other international organisations.

The main purpose of this new working body will accordingly be to ease the task of the Committee of Deputies which will have a particularly heavy and important role to play as regards direct appraisal of the work done by ad hoc groups appointed as required in accordance with the new structural arrangements. Thus, the Steering Committee of Deputies jurisdiction and responsibilities, nor will it be acting as a screen or filter for the results of the work done by subsidiary bodies before these are submitted to the Deputies.

The underlying principle adopted was to dispense with sectoral committee and groups. This is in line with the objectives described above and, as already emphasized, with the need for utmost flexibility of working procedures in order that problems may be investigated and settled most conveniently, more especially within the general or inter-modal frame of reference they must be fitted into.

The working units needed for this purpose will be appointed as required in the form of "ad hoc" groups. Membership of these groups will be open to all Member Delegations but will mainly consist of those that are more especially concerned by the matter at issue and their representatives will cover a range of skills enabling them to tackle the various facets of the problems involved. This view of things is in fact simply an extension of a procedure that the ECMT has already applied before, notably for the appointment of the Combined Transport Group, the High-Speed Transport group, the Group appointed to study traffic to and from the Middle East and the Group appointed some months ago to study transit problems. This procedure would also be used to investigate problems which have to be dealt with specifically within the three inland transport sectors (rail, road and inland waterways) and in connection with investments.

In addition to this working group procedure, it was also considered that, for certain topics, for instance those which essentially call for a digest of the situation in Member countries, the task could usefully be assigned to a rapporteur or group of rapporteurs.

Again with the same concern to tackle problems from a concrete and businesslike angle the intention is to make more effective use of restricted groups than there has been in the past in accordance with the provisions for their constitution and operating conditions under Article 8 of the Protocol. Previous experience and the analysis of certain topical issues indeed show that such matters may concern a few Member countries only and even if they are of general interest to some extent, their solution depends on the settlement of regional or local situations or difficulties. That is why it is certainly a good thing to begin by dealing with them in a bilateral or multilateral framework.

However, three existing committees have been kept under the new arrangements. The Economic Research Committee, the Committee for Road Traffic, Signs and Signals and the Road Safety Committee. These exceptions to the general rule are due to the kind of activities handled by the committees concerned. As the questions they deal with either fall within limited technical or specialised fields or are continually interlinked, they could not be dealt with on a case by case basis as this might lead to inefficient dispersal of effort. The fields of action and development that these committees are concerned with are of such a kind and have such distinctive features that they need to be kept continually under review by a body specially responsible for dealing with them.

The Conference long hesitated whether to retain the Urban Transport Committee. Though the organisation of urban transport is essentially a matter for regional or local authorities, Ministers of Transport are also concerned with it and their responsibilities are involved in various respects. Personal mobility in urban areas is clearly one of the most important social problems of our time and it is encountered in every ECMT country, but because it is so important, the Conference is not the only body concerned with it. For all these reasons, it was felt that the Conference should refrain from undertaking many studies in this field and should take into account the work done by other bodies. What mattered most was that in the light of all the work going on in this field it should be able to give timely impulses at political level.

That is why it was decided to replace the Urban Transport Committee by an urban transport co-ordinating group. This group would have a restricted membership and its aim would be to appraise the work done by international organisations concerned with urban transport, notably the OECD, in order to make use of the findings for policy purposes at ECMT level and see on what lines the Conference's further studies should proceed.

These are the broad outlines of the reforms decided by the ECMT for the organisation and management of its future activity which are to be put into effect as from 1st January, 1979. All the aspects of this new working procedure are referred to in the following chapters and more particularly in the second part of this volume of the annual report.

Annex 1 shows the general outline of the future organigram of the Conference.

3. *The working of the Conference*

As already stated, the **Council of Ministers** held two sessions, the 47th on 31st May and 1st June, 1978 in Brussels and the 48th in Paris on 12th December.

The **Committee of Deputies** held six sessions, on 12th January, 20th and 21st April, 31st May, 6th July, 26th-27th October and 11th December.

The structural changes began to be introduced during the second part of 1978, but pending the time when these adjustments could be fully implemented, the existing committees and groups continued to operate, if only to give them time to finish the work in hand. Some of these activities will indeed be continued in 1979 on conditions still to be determined by the Committee of Deputies.

Besides continuing this work connected with the organisation of transport, the Conference was involved throughout the first half of 1978 in working out the so-called "structural reforms". This was done by a group of rapporteurs, chaired by the Belgian Delegation, whose members came from the German, Spanish, French, United Kingdom and Swiss Delegations.

As previously arranged, the **Steering Committee**, mentioned earlier on, met on 13th December, 1978 (the day after the meeting of the Council of Ministers) in order to submit proposals to the Committee of Deputies for its meeting on 11th January, 1979: first, as to the action to be taken on the Council's discussions and decisions and, secondly, as to how the future work of the Conference should proceed.

For the year 1979, this Committee is made up of representatives of those Member delegations from which the Officers (i. e. the Bureau) of the Conference are drawn : Yugoslavia, Germany and Finland and the three following countries : Belgium, Austria and Denmark. The chairmanship of the Committee was assigned to the Belgian Delegation because of the part it played in working out the reforms and also having regard to its wide experience of ECMT problems.

In any reference to the working of the Conference, reference must be made to the contribution of its four Associate Members, the United States, Japan, Canada and Australia. Although these countries are not always directly concerned with all the matters relating to the development of transport policy in Europe, the fact remains that they cannot be indifferent to the organisation of inland transport in Europe having regard to the problems of international trade and traffic with Europe that they are involved in. Knowledge of the results of Associate Member policies and experiments to deal with certain situations and problems is also of most valuable help for determining ECMT options. The attendance of these countries at ECMT meetings and their contributions to the work of the Conference give very useful guidelines. The structural changes mentioned above should also help to improve the participation of the Associate members in the activities of the Conference.

Chapter II

ECMT ACTIVITIES

The work of the Conference in 1978 continued in accordance with the two-year programme (described in the 24 th Annual Report) which the Council of Ministers adopted at its June 1977 session in Athens. This programme already outlined the topics which the ECMT should give attention to and which were more amply defined when the working procedures of the Conference were reviewed as described at the beginning of Chapter I.

More specifically, in the course of its two sessions in 1978, the Council of Ministers dealt with the following topics :

- increasing of the ECMT multinational quota for transport of goods by road, and liberalisation of certain types of transport;
- promotion of combined transport;
- new provisions concerning road traffic rules, signs and signals;
- further action concerning road safety.

Attention was also given to the three following points :

- summer holiday traffic flows in ECMT member countries;
- transport of handicapped persons;
- activities of the EUROFIMA Company. As the ECMT sponsored the institution of this company, it keeps in touch with its progress and, as originally provided, tries to ensure that it receives the support of governments.

As shown in Part II of this report, the Ministers were generally able to adopt the reports submitted on these points together with the accompanying resolutions as to the action they considered should be taken at policy level.

Apart from the discussion of such points which led to the taking of effective stands, the Conference and its Council of Ministers kept in touch developments in Member countries as regards the outlook for harmonizing procedures for the change to Summer Time.

Attention was also given to problems concerning the Austrian Government's institution of road transport levies. This is linked-up with problems concerning inadequate capacities, notably road infrastructure capacity, and all the inconvenience caused by road traffic, especially lorry traffic, in certain countries – transit countries in particular – which have to bear the burden of such traffic and try to cater for it without obtaining anything in return.

There can be no doubt that the requirements of trade in the present day world are bound to be affected by all the obstacles which stand in its way. The countries concerned are indeed well aware that it is important to comply with the principle of freedom of transit across their territories. Even so the question of practical feasibility still remains.

The difficulties in this connection were clearly demonstrated in the course of the ECMT study on the growth of inland transport to the Middle East, the conclusions of which were submitted to the Council of Ministers at its December 1977 session, as explained in the 24th annual report for the year 1977.

It was found that the difficulties were not entirely due to a circumstantial increase in inland traffic because of congestion and Middle East seaports, and that there was a basic problem as to international transport capabilities.

In the following chapters of Part II in this volume of the annual report, further particulars are given on this question of transit and how the Conference proposes to investigate it. There can be no doubt that the analysis of this problem and of the lines along which a solution should be sought confirms the ECMT's view that the organisation of transport at European level should be tackled by an overall inter-modal approach within an international framework. Because of this structure, together with the greater flexibility provided by the "reforms" already referred to, the ECMT is well suited to deal with this new awareness of the overall aspects of the organisation of transport in Europe. The Conference is a forum where open discussion of Member countries' interests helps to show where organised and effective action can be taken.

It will also be remembered that the Council of Ministers has asked the Conference to increase the contribution of its Economic Research to the process of political decision-making. Not only will the topics selected for research be more closely in line with the real contents of the problems to be dealt with, the timing of scientific research activities will be calculated in such a way as to ensure that the findings can be included among the material submitted for consideration at meetings of the Council of Ministers. For the same reasons, the ECMT has restructured its documentation facilities, notably as regards the data-processing system known as ICTED.

In short, being aware of the economic and social aspects that the transport sector will be confronted with, the ECMT tries to be suitably equipped to find answers to the problems it is involved in.

It is in the light of the foregoing considerations that the ECMT has drawn up its programme of work for the coming years. This programme has been planned in such a way so as to enable the Council of Ministers to give timely consideration to matters on which it has to take action.

In accordance with the guidelines for its future work and the corresponding structural adjustments to working procedures as mentioned above, there can be no doubt that, apart from transport problems as such, the Conference will have to give particular attention to the arrangements needed to pay due regard to various factors which have a bearing on the present and future context, such as energy, environmental protection, regional planning, inter-relationships between technological, industrial policy and transport policy problems, social problems and manpower problems.

Analysis of the situation concerning the status and role of European inland transport, having also regard to developments concerning sea and air transport, means that the Conference must consider very carefully how it should tackle the problems this may imply for inland transport. Sea and air transport are of interest to the Conference in two respects : (a) inland links with seaports and airports and (b) possible competition or complementarity of air and sea transport with rail, road or inland waterway transport.

Where sea transport is concerned, the Conference is directly concerned about developments concerning container transport and roll-on roll-off services. A whole series of questions arise in this connection. They concern every aspect of the organisation of traffic patterns, their implications for inland transport and the arrangements to be made for examining them and dealing with them.

Two developments concerning air transport are especially relevant on the inland transport side, namely; the airlines' new fares policies and the use of jumbo aircraft. The ECMT will endeavour to find ways of integrating these air transport aspects in its analyses and in the guidelines and measures concerning the inland transport sector which falls within its field of confidence. In view of the terms of reference given to the Conference under its Protocol, the difficulty of its intervening in this field is readily understandable, but this point has been raised as a direct issue and the Committee of Deputies, with help of the Steering Committee, will look into the possibilities of ECMT intervention having regard to the fields of competence of those bodies that are directly concerned with air transport.

Within the field of inland transport which probably belongs to it, the Conference has laid down the main outlines of its programme up to the year 1980. This programme provides for two general discussions :

- at the meeting of the Council of Ministers in May 1979, consideration of problems concerning goods transport in transit;
- on the agenda for the Spring 1980 session of the Council of Ministers a general discussion on problems concerning European infrastructures and trunk communications.

This programme also provides for submission of the following points to the Council of Ministers :

- urban transport : urban transport financing and para-transit;
- road safety : accidents at night, influence of alcohol on driving matters relating to the safety of motorcycle and moped users.
- inland waterways : fleet capacity, organisation of the market; problems concerning waterway transport operators.

The ECMT, being aware that 1979 is the "International Year of the Child", has also decided to show the importance it attaches to problems concerning children and young people. On the basis of the record of its many efforts for the protection of these age-groups, it proposes at the spring 1979 meeting of the Council of Ministers to determine what it should do as regards continuing, expanding, or introducing action on these lines. It has already decided that, at the meeting of the Council of Ministers in the autumn of 1979, it would resume its investigation of road safety aspects concerning children and young people.

Such plans drawn up with an eye to meetings of the Council of Ministers cover only part of ECMT activities during the period under review. Work will also continue on the following points :

- promotion of combined transport in accordance with the terms of reference given by the Council of Ministers at its meeting on 12th December, 1978;
- high-speed transport;
- compiling of transport and investment statistics;
- exchanges of information on investment projects of European importance and on criteria and methods for investment appraisal;
- adjustments to regulations concerning road traffic rules and road signs and signals.

The way in which these points are being tackled, the guidelines adopted and the results obtained are discussed in the corresponding chapters of the second part of this report.

Chapter III

EXTERNAL RELATIONS

As already mentioned with reference to the tackling of urban transport problems, the ECMT will try to combine its action with that of international organisations whose work directly or indirectly concerns inland transport in Europe.

It will be remembered that it lies with the Conference, as provided under Article 3 (b) of its Protocol "to co-ordinate and promote the activities of international organisations concerned with European inland transport taking into account the work of supernational authorities in this field".

It would be pointless to rehearse once again all the details about the ECMT relations with governmental organisations, especially with the OECD, the European Economic Community, the Council of Europe and its Parliamentary Assembly, and the United Nations Economic Commission for Europe.

Such relationships exist as a matter of course and they need not be described once more. Admittedly, ways and means of co-operation must always be sought but, basically the determination of objectives and the procedures for obtaining them is already settled.

The ECMT also continued to give close attention to its relations with non-governmental organisations concerned with the transport sector.

With reference to this question of external relations, it may be of interest to recall what was said in the report on the role of the ECMT which was adopted by the Council of Ministers.

Referring to the role, status and goals of the Conference in connection with the work of international organisations concerned with transport, the Council considered that :

"The Conference is a specially suitable forum for Transport Ministers having regard to the possibilities it offers as compared with those of other international organisations, and as its Protocol explicitly provides for co-ordination of other international organisations activities concerning transport, and as its working methods enable it to carry out in-depth investigations, it is both able and duty-bound to play an important role in the transport field, especially with reference to international transport, and to contribute to better general standards of living by improving transport conditions."

It is in the light of these considerations that the arrangements concerning the ECMT's relations with other international organisations have been determined. But as already pointed out with reference to the principles which prompted structural reforms, due regard had to be paid to every aspect of European integration development at political, economic and social level. A token of this process of change can be seen in the establishment of relations between international organisations in consequence of its impact on their activities.

Broadly speaking, as many previous ECMT annual reports have already pointed out, the Conference tries to ensure that its studies or research do not reincorporate topics which have been investigated elsewhere especially when their scope goes beyond transport problems as such. On this basis, and subject to an evaluation of the results of this work, what the Conference tries to do is to draw conclusions for policy-making purposes in its own sphere.

The aim must be to avoid duplication, but it must also be borne in mind that, whatever the kind of work undertaken elsewhere, the Conference has to shape the course of its activities to match its own responsibilities with respect to the geographical area it embraces and to its field of competence. Because of this – apart from permanent relationships between the ECMT and other organisations which enable the latter to keep in touch with the work of the Conference and give their opinion on it is required – more immediate collaboration for dealing with certain problems can only be on a pragmatic and circumstantial basis. The same line of thinking covers the ECMT's attitude to what it can itself contribute to the work of other international organisations.

In this connection, the Conference undoubtedly pays particular attention to the views expressed by the Council of Europe and its Parliamentary Assembly on the activities of the Conference and on the stances they take on transport problems. For instance, the Conference very carefully considered the Assembly's Resolution N° 663 in reply to the 22nd and 23rd annual reports on its activities for the years 1975 and 1976. Although these documents were not officially referred to it, the Conference has also examined the provisions of Resolutions 668 and 826 on recent trends concerning trunk communications and regional planning in Europe, the latter more particularly based on Report 4096 on this subject.

The replies of the Conference to the points raised by the Parliamentary Assembly will be submitted by the Chairman of the Council of the ECMT at the autumn 1979 session of the Assembly when, as it does every two years, it will consider the activities of the ECMT as set out in the annual reports for the years 1977 and 1978. The Conference hopes that the structural adjustments and corresponding changes in its working procedures will enable it to put the results of its activities to the Assembly in a form which, for policy and practical purposes, will be better suited than in the past to the concerns and status of that body.

The ECMT did however regret that the Council of Europe was unable to its suggestion that another joint Conference on Road Safety Education in Schools should be held in 1979. The "International Year of the Child" would have been a timely occasion for a conference of this kind. As explained in a later section of this report which deals with the ECMT's work on Road Safety, it would be all the more useful to hold this joint conference at an early date as it is clear that the education and training of present and future road users will now play a greater role in Road Safety campaigns than the introduction of more regulatory constraints.

In the course of its relations with Council of Europe Organisations, the ECMT attended the Fourth Session of the **Conference of European Ministers responsible for Regional Planning (CEMAT)** in October 1978. ECMT activities relating to the topic dealt with were described on this occasion. There can be no doubt that the ECMT, more particularly in pursuance of the ECMT/CEMAT joint seminar held in November 1977, will try to find points where action on transport and regional planning can be taken jointly.

The Conference's relations with the **Organisation for Economic Co-operation and Development (OECD)** continued with arrangements for co-ordinated action in the fields of road safety and urban transport. The same concern to seek the most expedient ways of handling matters of common interest has strengthened the search for a concerted approach to transport problems bound up with environmental considerations.

On this question of ECMT relations with OECD, attention must again be drawn to the importance of the assistance that the Organisation gives to the Conference as regards working facilities in accordance with Article 7 of the Protocole of the ECMT.

Relations with the **United Nations Economic Commission for Europe (ECE)** are proceeding in accordance with the continuing concern for correct alignment of concerns and activities. The ECMT participates as far as it can in the activities of the ECE and its Inland Transport Committee. The possibilities given to the ECE and the representatives of the Transport Division of its Executives Secretariat are increasingly wider. The ECMT also tries to take account of the activities of the ECE Inland Transport Committee in its own work. It also provides the ECE with the findings of its studies which may be of interest to that body : for instance, it always informs the ECE about the conclusions of its studies on matters concerning road traffic rules and road signs and signals investigated by the Conference; more specifically the findings of the ECMT studies on traffic to and from the Middle East were communicated to the ECMT for such action as it sees fit.

Being concerned to work more effectively for the organisation of transport in Europe together with the other international organisations the Council of Ministers considers that ECMT participation in ECE activities should be strengthened by obtaining the ECE's agreement to its attendance at ECE meetings with a more official status than it has at present. It would like to be given the consultative status provided under Article 12 of the terms of reference of the United Nations Economic Commission for Europe.

Relations with the **European Economic Community** and its Commission were put on an institutional basis by the agreement arrived at in 1975. Clearly the ECMT Member countries will increasingly have to take into consideration the stances taken by the EEC. The attendance of representatives of the Community and its Commission at meetings of the Council of Ministers and Committee of Deputies of the ECMT will facilitate this. It is also clear that the Commission's participation in ECMT committees or groups which do the basic preparatory work for the Conferences guidelines and decisions can be of great importance for some of the topics dealt with. The ECMT accordingly intends to take an increasingly open attitude to the ECE Commission's participation in its work.

As the guidelines adopted by both organisations and the measures they have taken or recommended usually went, for obvious reasons, in a similar direction, it is understandable that regulations covering Western Europe generally should be sought. It was against this background that, in 1978, negotiations proceeded between the Community and ECMT countries that are not members of the Community, for the conclusion of an agreement on occasional road passenger transport services'

As a general rule, one of the direct effects of the structural adjustments that have been adopted will be to give the international governmental organisations easier access to the work of the ECMT by eliminating or at least alleviating the institutional obstacle which might have hampered their attendance at ECMT meetings.

The foregoing description of the Conference's relations with international governmental organisations concerns those bodies with which it has particularly close links because it has good reason – on account of the activities of those bodies – to seek ways of working jointly with them for the smooth organisation of transport in Europe. These are not the only bodies with which the Conference co-operates and its links with the **Central Commission for Navigation of the Rhine** are a case in point.

Again with a view to obtaining the fullest possible information on all the factors relevant to decision-making, the Conferences contacts with non-governmental organisations will be continued.

These organisations had an opportunity to give their views on the activities of the Conference on two occasions in 1979 : in June and on the day before the meeting of the Council of Ministers in December. At the December hearing they expressed their agreement on the essential points as to the work done and the main decisions proposed by the Council of Ministers with regard to transport of handicapped persons, problems concerning summer holiday traffic and combined transport. Noteworthy points at the June hearing were the concerns expressed by the interests represented by each organisation as regards the extension of the multilateral quota for goods transport and the views expressed by some of them as to the attention that the ECMT should give to maritime transport and air transport.

On this last point, it should be noted that the European Civil Aviation Conference (ECAC) is always invited to the hearings just mentioned, and that the ECMT keeps generally in touch with this body which indeed provides the Conference with the statistical data on intra-European air transport that are included in each annual report. It will also be remembered that the ECMT is a member of the Institute of Air Transport (ITA).

More generally, the organisations represented wished to be better able to state their views on ECMT activities and decisions. As mentioned earlier on with reference to governmental organisations, the new structural arrangements of the Conference should make it easier to comply more satisfactorily with their wish to give their opinion on its work. In this connection, it should be noted that, apart from general hearings, the organisations in question already have had opportunity to speak on certain specific activities of the ECMT.

The particularly useful support that the *Prévention Routière Internationale* gives to the work of the Conference must again be mentioned. A particular feature of this co-operation was the joint organisation in 1978, (in accordance with the usual practice every two years) of an international poster competition on a road safety topic. The entries for this poster competition for which the theme was "safety on two wheels", were on display at a public exhibition on European transport and ECMT activities which was held at the main station in Brussels during the June 1978 session of the Council of Ministers to celebrate the 25th anniversary of the Conference. The winning entries of all the previous contests were also displayed on this occasion.

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In short on this question of the ECMT's arrangements for external relations, it is clear that the Conference will be concerned to establish the most effective relationships for practical purposes with the international governmental and non-governmental organisations.

Part II

ECMT ACTIVITIES IN PARTICULAR FIELDS

CHAPTER I

ORGANISATION OF TRANSPORT

A – GENERAL APPROACH

As pointed out in the first part of this report, although the Conference retained its previous working structures in 1978, it did begin to look into inland transport problems that it is responsible for with an eye to tackling them from a general inter-modal angle. The modal classification was accordingly put aside so that investigation of modal issues could be integrated in a general approach.

Having considered the programme of work submitted by the Railways Committee, the Committee of Deputies judged that the Conference's work with reference to the railways should be determined in the light of the general guidelines for its activities. More particularly, it was considered appropriate to go beyond the "philosophical" approaches adopted for over ten years and to tackle problems from a concrete angle by situating the action to be taken in the broad framework of the improvement of transport conditions for passengers and freight as they arise now and in the foreseeable future.

In this connection, the Conference is likely to direct its attention to the harmonization of railway cost-accounting procedures in furtherance of what has been done in this field by the EEC. This study would be followed by an investigation of rail tariff problems, with a view to putting the railways in a better position to quote through rates.

Development concerning the public service obligations and commercial operations of Member countries' railways will be kept under review by submitting a periodical report on this subject to the Council of Ministers.

As regards road transport, in pursuance of the liberalisation of such transport and having regard to the harmonization of terms of competition in this respect, the Conference decided to increase the multilateral quota which it had instituted by 20 per cent. This increase raises some problems for certain countries confronted with road traffic difficulties, more especially those due to lorry traffic.

This latter aspect was the reason for the appointment of the Group responsible for transport in transit whose terms of reference and activities are mentioned below. On the same grounds, a special group has been appointed to look into problems concerning the allocation of licences issued in accordance with the ECMT multilateral quota for transport of goods. It might indeed be found that, with an eye to well-balanced sharing of the traffic among ECMT Member countries, the present allocation of licences is not consonant with the true requirements concerning the movement of traffic having regard to the geographical situation and economic needs of certain countries. Desirable adjustments could of course be effected only as part of an overall increase in the quota.

Again in connection with the liberalisation of transport, the Council of Ministers, in a Resolution approved by the majority of Member countries at the session held on 31st May and 1st June, 1978, decided to give wider scope to some of the provisions in its previous Resolutions No. 16, 27 and 32 concerning the liberalisation of certain types of international transport.

The proposed measures were based on those adopted by the European Community for certain operations which had only a slight impact on the economics of transportation such as the widening of the liberalised transport "strip" on either side of a frontier. The proposals met with reservations from some ECMT Member countries which, on the same grounds as those put forward with reference to the extension of the multilateral quota, were concerned about the consequences of the new facilities which might be granted for transport of goods by road.

All these matters are in fact bound up with problems of policy (i. e. making liberalisation subject to harmonization in terms of competition) but they are also linked with more concrete problems which lead to differences of opinion between countries which generate traffic and those which do not but still suffer from its consequences, i.e. between countries through which traffic passes and peripheral countries seeking the utmost facilities for their transport requirements.

With regard to **inland waterway transport**, the Conference continued its work in the two areas where it can make a useful contribution, namely, the criteria for evaluation of fleet capacity and the review of the inland waterway transport market. The results of work in progress should be submitted at one of the forthcoming meetings of the Council of Ministers.

In the light of the foregoing considerations, it is clear that there are problems to be solved which in most cases cannot be dealt with by an approach limited to each mode of transport. The activities discussed below were undertaken or carried out accordingly.

B – TRANSIT PROBLEMS

As stated in the 24th Annual Report, on two occasions in 1977 the Council of Ministers of the ECMT looked into the results of a well-documented study on the problems arising at the time in connection with inland transport to the Middle East. This indeed referred to a series of difficulties bound up with a circumstantial increase in the volume of traffic which was large due to the transfer to overland routes of consignments which could not go by sea because of congestion at seaports in the area concerned. But apart from its being justified by a "crisis" situation which was gradually cooling down, this study was useful in that it highlighted a problem – the problem of transit – which was of both topical and basic interest and which then focused the attention of policy-makers.

It is indeed easily conceivable that in a situation such as this there should be, on the face of it, two sets of divergent interests, those of the exporting and importing countries, which usually determine transport conditions between them and those of the transit countries which suffer the effects as regards utilisation (if not congestion) of their infrastructures, road safety and environmental nuisances.

There has indeed been a big increase in traffic flowing through several countries without stopping, that is, without effect on the national economy. Because of the direct or indirect effects suffered in this way, the countries concerned have often been obliged to impose various restrictions, notably on road transport. In a general scheme of things such as this, the ECMT had serious difficulties in raising by 20 per cent its multilateral quota for international transport of goods by road, and these difficulties might well become worse in future if a number of basic problems in this connection are not disposed of beforehand.

Furthermore, several countries have taken steps individually, especially with regard to transport levies, and this has of course been a matter of special concern for the partners of these countries and for the transport industry.

The combination of all these factors has induced the Council of Ministers to choose problems concerning transport in transit as the topic for its general discussion at Ministerial level in the spring of 1979. To prepare the material for the Ministers thinking and decisions on this subject, and ad hoc Group was appointed at the beginning of 1978. Its main task is to consider by a multilateral approach, the various ways of smoothing the present difficulties impeding practical action. Incidentally, the appointment of this Group, instituted as it was on an ad hoc basis with deliberately multi-modal terms of reference, constituted as it were the prefiguration of the structural changes to be introduced during the year 1978 as explained in the first part of this report.

More specifically, the four main points in the Group's in terms of reference are:

- to assemble the findings of available studies on present and, where appropriate, foreseeable demand for international transport, and also to take stock of existing transit infrastructures and of the plans for their development;
- to analyse the factors and reasons underlying the restrictions imposed on transit traffic;
- to seek administrative, technical, economic and financial procedures which might reduce or remove obstacles to the smooth flow of freight traffic in transit;
- to consider how the ECMT might help to settle or at least alleviate existing transit traffic problems.

In the light of these instructions, the ad hoc Group planned its work in several stages. First there was a fairly wide survey in Member countries and the results produced detailed information on the subject at issue and its likely developments. The essential aim was to get a better picture of the problem of transit, the proportion of international traffic of total traffic it accounted for, its structural pattern, seasonal variations and correlation with the trends of external trade; the survey was also intended to cover the main corridors for each mode of inland transport, with particulars concerning various routes, transport capacity, traffic conditions and development plans.

At the same time, the Groupe collected a series of data enabling it to see more clearly the problems encountered with regard to the movement of freight in transit notably those concerning transport restrictions and financial charges. After analysis of the information collected and a wide exchange of views on experience in each country, the Group carefully considered the main causes of present problems with a view to seeking possible ways of improving the situation for various inland modes.

Without anticipating the final results of the work in progress, it can reasonably be expected that these measures will lie in three main directions: first, the inter-modal distribution of traffic for freight in transit; secondly, taxation – special consideration being given to the justification, content, scope and possible effects of provisions which may be expected in this respect – and, thirdly, the development and modernisation of transit infrastructures; here, the prospects will be considered in the context of international co-operation possibly providing for a new type of financing procedure for the infrastructures in question.

All these three categories of course comprise both short-term measures and others that are conceivable only over a longer time-scale. It must also be pointed out that the ad hoc Group had to carry out its task with due regard to the work connected with this subject which was being done both inside and outside the Conference. In this connection, it is gratifying to see that the Group's meetings were regularly attended by a representative of the EEC Commission. The Groupe was also particularly informed of the work done in this field by the ECE Inland Transport Committee as some of its members have a direct share in the study undertaken by that body.

There can be no disguising the fact that the entire "operational" side of this work runs into a major difficulty, namely, the fact that to a very large extent, problems raised by traffic in transit are only on aspect of a more general and wider problem for the solution of which any progress on the particular point of issue depends. This is undoubtedly the case for anything connected in one way or another with the determination of levies for the use of infrastructure. It follows that this is also applied to anything connected with road transport taxation. Whilst being fully aware of this problem, the ad hoc Group did however try to avoid the pitfall of putting at issue all the main elements of government transport policy. It is hoped that this attitude, both cautious and pragmatic, will enable it to submit practical and feasible proposals at the meeting of the Council of Ministers in Belgrade to be held in May in 1979.

C – COMBINED TRANSPORT

For a good many years, through the agency of a specialised group, the ECMT has been giving close attention to the development of various types of combined transport and its attendant problems in European Member countries.

The Conference has always felt that, because of a whole series of specific advantages, combined transport deserved sustained encouragement from government which – without intervening in the basic options of the trading partners directly concerned and whilst fully complying with the principle of users' freedom of choice – could usually provide a suitable general framework for the harmonious development of combined transport, eliminate the various obstacles and difficulties impeding its development and provide certain initial facilities as required.

This basic attitude on the part of Ministers of Transport is due to considerations, and even objectives, that are central concerns of general transport policy. Here, it must be pointed out that inland combined transport can help to relieve congestion on trunk roads, notably those used for traffic in transit, which in some cases have reached the limits of their capacity. The difficulties that some countries have to face because of the heavy flows of road traffic they cater for have more recently given added importance to a multi-modal approach to the problems involved and hence to the contribution that combined transport systems can make to the smooth flow of traffic. They can also help to make better use of existing rail capacity and, more generally, precisely by combining the inherent advantages of each component mode, they can help to improve the quality of service offered to users. The development of combined transport systems also seems justified for reasons of environmental protection, road safety, oil-based energy conservation and land-use planning.

In accordance with what is already a periodical fixture, the Council of Ministers, at its December 1978 session, considered this subject on the basis of a well-documented report covering the present situation and recent trends. This report which included, in particular, piggyback container and roll-on/roll-off transport, also comprised on this occasion a number of new elements.

First, in accordance with terms of reference previously given by the Council, it contained a study of the profitability of piggyback and container transport from the macro-economic and micro-economic angles. Where piggyback transport is concerned, this interesting study shows that, for the trading partners concerned (i.e. consignors and road and rail transport operators), the comparative costs for road transport throughout and piggyback transport, including terminal hauls, are of decisive importance.

Furthermore, apart from the quality of service offered by rail, railway rates for a given piggyback haul have a decisive bearing on the road transport operators' decision whether or not to make use of piggyback services. In any case, the true potential of this system must not be judged by reference to its contribution to total transport output but to the percentage of goods transport it accounts for beyond an economically significant threshold in the region of about 300 km. What emerges from the various aspects considered is that governments should co-ordinate their planning in this field over a long period and adapt certain uniform technologies in such a way that capital costs will be kept as low as possible. Piggyback carriers should also be encouraged to co-operate on an international basis, in particular by inducing them to encourage their organisational, financial and tariff structures.

Containers, on their side, are used for combined transport only if this means a saving on overall direct and indirect transport costs, but this being said, containerisation has definite advantages since it often ensures savings on packaging, more efficient trans-shipment from one mode of transport to another and less risk of pilferage or damage. All these benefits of containerisation are well established even outside the maritime transport sector which introduced it into Europe. It lies with the governments of the Member countries to encourage all the efforts made in this field by operators in each mode of transport.

Another original feature of the report submitted to the Ministers lies in the study on the particularly large share accounted for by piggyback transport on certain routes and the reasons why a similar level of development has not been achieved on other comparable routes. In this connection it was found that the location of terminals and the facilities provided there were of vital importance and this led to the conclusion that the governments concerned should undertake to induce the responsible authorities to plan the siting and number of terminals jointly; furthermore, after multilateral consultations they should also encourage their railways to acquire appropriate rolling stock. The scope for such action by international co-operation were analysed in closer detail on a concrete basis by reference to the piggyback system used on the corridor along the Rhine to Italy, as consideration should be given to extending it to the Mediterranean ports beyond.

In the course of future international co-operation at government level, attention should also be given to combined transport routes running from Northern Europe via Austria southwards to Yugoslavia, Greece and Turkey.

As in previous years, international non-governmental organisations were widely consulted at a stage enabling their views and suggestions to be usefully taken into account for the drafting of the paper submitted to the Ministers. Apart from these consultations, three international organisations made very welcome contributions to the work:

- the Secretariat of the OECD Maritime Transport Committee with regard to recent developments concerning shipping and seaports;
- the Secretariat of the United Nations Economic Commission for Europe, with regard to its current work on a series of administrative, legal, technical and other provisions;
- the Commission of the European Communities, with regard to the implications of the directive on the institution of common rules for certain types of combined road/rail carriage of goods between Member States.

After its wide exchange of views on the subject, the Council of Ministers adopted a resolution (see Vol. II of this Annual Report) the provisions of which are in conformity with the line of approach explained above.

D – INVESTMENT

In 1978, the Investment Committee of the ECMT continued its activities in various fields, namely:

- developments concerning signature of the new agreement replacing the Declaration of 1950 which concerns the definition of the European road network;
- the study on the choice of investment criteria;
- the drafting of the annual report on traffic and transport investment trends;
- the problem of trunk transport links.

Before discussing what was done under each of these headings, it must be pointed out that the structural changes decided by the Council of Ministers involved the abolition of the Investment Committee and its replacement by a series of working groups which to some extent took over its previous remits (see Part II).

The information exchanged on projects of international interest in accordance with the procedure approved by the Council of Ministers for two-yearly submissions will be analysed in 1979 and submitted to the Council of Ministers in the spring of 1980. The Council is being supplied with this information with some delay because the Committee of Deputies intends to provide it, at the meeting mentioned above, with as complete as possible a dossier on investment and trunk communications in Europe. This dossier submitted to the Ministers will also cover the work done in other fields such as the choice of investment criteria. The study on this topic, which began in 1978, was based on a survey of planning methods and investment criteria in ECMT countries. The provisional findings of this survey have been used for the first draft of a report which is now being considered by the Working Group. One of the early tasks of this Group was to produce definitions and translations of important terms in the working languages of the Conference in order that the evaluation of investments in each country may be more clearly intelligible to national experts.

Another objective of the Group was to show the methods adopted. The Group has made a comparative study of two important parameters as part of the evaluation of methods for the choice of investment projects. These parameters are time saving and the discount rates adopted for investment projects. The Group will continue its work in 1979 and will look more particularly into:

- a) International aspects of transport infrastructure investments.
- b) The contribution of transport infrastructure investment to the creation of employment.
- c) The taking into account of inter-modal relationships in the planning and evaluation of investment projects.

As regards the drafting of the annual report on traffic and investment trends, some changes were made in the collection of statistics for the report and its layout. The new questionnaire for statistical information was both more concise and wider-embracing. It is proposed to submit the contents of this report in two ways:

1. In leaflet form, a publication setting out briefly, but as completely as possible, essential information on recent transport output and investment trends; this is to be submitted to the Council at its autumn session.
2. The annual report published in the usual way but in this case with more inter-modal comparison of transport trends.

Various improvements to the statistics will be introduced in this report and this will be done on a continuing basis so as to build up time series of reasonably good standard.

As mentioned earlier on, the Ministers have asked for a report reviewing the question of investment and trunk communications to be submitted to them in the spring of 1980. The points raised on several occasions by the Council of Europe in this connection will be borne in mind. In particular, the enquiry conducted in 1978 to ascertain ECMT Member countries' views on the proposals contained in the Council of Europe's Resolutions Nos. 826 and 668 accompanying Report 4096 which the Parliamentary Assembly of the Council of Europe approved in January 1978. The Conference is accordingly looking into this matter with keen interest and will endeavour to give replies in the course of the Ministerial meeting on the subject in the spring of 1980.

CHAPTER II

SPECIFIC PROBLEMS

A – URBAN TRANSPORT

In the Annual Report for 1977, reference was made to the work on urban transport which should be undertaken by the ECMT during the period 1978-79. Like most ECMT committees, the specialised committee which supervised in 1978 the work that had then been planned was affected by the structural changes approved by the Council of Ministers. Thus, the Urban Transport Committee was abolished and replaced by groups who are continuing the work in hand, notably those on urban transport financing and on paratransit, and by an advisory body known as the Urban Transport Co-ordinating Group which is mentioned in Part I of this report with reference to its membership and terms of reference.

The ECMT's work on urban transport in 1978 continued in accordance with the previous programme, notably four studies on particular points, namely, urban transport financing, paratransit exchange of information on parking policies and traffic in residential areas.

As regards the first of these studies, an enquiry conducted by the Secretariat had initially produced valuable information on the financing of urban transport and the subsidies allocated to it in various countries, but this information was later found to be incomplete. It was indeed necessary to study the effects of subsidisation on the patronage, quality and costs of public transport services, together with many other aspects. It was accordingly judged appropriate to appoint a small Group of Rapporteurs under United Kingdom chairmanship, which then looked into these matters over several months. The progress made by the end of 1978 gives reason to expect that a full report will be submitted to the Council of Ministers in the spring of 1979. The report covers the following points.

- i. Trends in patronage, services, costs, subsidies, etc.
- ii. Effects of subsidies on patronage, costs, productivity, etc.
- iii. Description of policies on subsidies.
- iv. Brief summary of concessionary fares schemes and other topics of general interest.

It is generally true that costs and subsidies have risen inordinately in recent years and that public transport patronage has not increased at the same pace.

The data collected in the course of this study will provide a good basis for objective analysis. Changes in fares and their effect on patronage will also be considered in the report. Although the study may not make it possible to establish entirely unambiguous quantitative relationships between subsidies and productivity or patronage, useful data should be collected for an effective policy in this field.

The study on paratransit (non-conventional) transport systems continued in 1978. It covers transport systems of this kind for which there is practical experience in the ECMT countries. The study is not confined to urban transport, and many of experiments described are in rural areas. The object is to ascertain the origins and aims of the experiments in question and to analyse their operational and other characteristics. This inventory of non-conventional transport systems also covers their patronage and financial performance.

By the end of 1978, 16 practical experiments had been listed for six European countries and Japan. However, the Committee of Deputies judged it necessary to continue this work and add more experiments so as to cover the widest possible field with a view to drafting policy conclusions for the Council. In these circumstances, a final report is planned for the autumn of 1979.

Besides the benefits that can be expected of increased car ownership and use, there are also some disadvantages, (noise, disamenities, pollution, etc.). These disadvantages are due partly to motor traffic as such, but also to an appreciable extent to parking. As parking regulations are a means of influencing not only traffic flow but also land use, the Council of Ministers judged it appropriate to arrange for an exchange of information at ECMT level so as to have a better knowledge of what each country was doing in this field. Several countries took part in this exchange of information in 1978 but no report containing conclusions for submission to the Council of Ministers was drafted.

As already mentioned, the ECMT has agreed to co-operate with the OECD in the organisation and proceedings of a seminar on urban transport and the environment to be held in July 1979. In the course of this seminar, practical contact will be established with local authorities and subsequently maintained. The international organisations concerned and particularly those representing local and regional authorities will be invited to take part in this seminar together with many specialists.

The general feeling that emerges when one considers the work of the ECMT on urban transport is that – better than the adoption of coercive measures – exchange of information and experience should enable the authorities concerned to take the necessary steps, and it is on these lines that the ECMT intends to proceed.

B – ACTIVITIES OF THE EUROFIMA COMPANY

Rolling stock financing problems (notably with a view to improving both coaching and freight stock) were among the first to which Member governments of the European Conference of Ministers of Transport gave their attention. It was to find a solution for these problems that the Eurofima Company, whose headquarters are at Basle, was set up under ECMT sponsorship in 1955. The purposes of this company are laid down in the Convention under which it was established. It concerns the raising of financial resources on the best possible terms on the capital market so as to help the equipment and operation of rail transport in the countries which are signatories to the Convention. The aim is to facilitate the modernisation of railway networks, encourage the construction of standardized equipment and, to some extent, put pressure on prices by placing joint orders.

The Eurofima Company has acted in full conformity with its assignments. Thus, since its foundation, it has negotiated loans and credit to the equivalent of over Sw. Frs. 6,500 million which have been spent on the acquisition of 3,000 locomotives and multiple units, 2,000 coaches and nearly 50,000 wagons.

A good deal of rolling stock has been bought buy means of joint orders, that is, 3,600 wagons and 600 coaches and sleeping cars. The biggest order is for 500 standard coaches for international services. However, the company could secure better orders if the facilities it offers were even better used than they are at present by the railways concerned. Because of this, the Directors of the company suggested that governments might give it their support on the lines proposed in the Convention by which it was founded, with a view to securing more regular use of the company's services by the railways for the financing and purchasing of rolling stock. On the basis of a report prepared by the Secretariat in consultation with Eurofima, the Council of Ministers of the ECMT accordingly considered the activity of the company at its December 1978 session. It was then seen that the company, even when confronted with somewhat unstable external circumstances, notably as regards the monetary situation, had never had its activity hampered by its institutional framework and organisational structure. But in future, as before, it would occasionally be necessary to bring the share capital of the company into step with the scale of its transactions. However, Eurofima has not been used – or, at least, fully used – as it might have been by all the

member railways as a source of finance. If all of them were to do so, on as regular a basis as possible it would increase the effectiveness of Eurofima activity and make it easier to allocate finance. This is important because – though the diversity of the railways' financing requirements is recognised – a reasonable balance has to be maintained between each railway's contribution to the company and its share of the financing operations. This, in fact, is largely the foundation on which the company's status as a borrower rests.

It would accordingly be helpful if each railway could decide in advance what share of its rolling stock investment would be financed by Eurofima. Furthermore, financing operations based on a package of different currencies would spread foreign exchange risks for the railways concerned, but if maximum advantage is to be taken of favourable capital market conditions, the railways could be in a position to decide quickly when Eurofima makes them an offer.

Furthermore, although as a general rule, floating rates of exchange are unfavourable to pooled purchasing deals, improvements could be made with a view to better planning and prices.

In short, it would be fair to say that Eurofima could carry out its task even more effectively than at present provided that:

- All the member railways regularly use the company, as far as this is possible, as a financing and ordering channel.
- Governments that are now signatories to the Convention pay due regard to the importance of the railways making regular use of the facilities offered by the company and so give it their support.

The company's annual report for 1978 is set out below:

"In the course of the period under review, EUROFIMA continued its operations for the benefit of its shareholding railway in its two fields of activity, the financing and purchasing of rolling stock.

Financing operations were practically as many as in previous years but they only amounted to the equivalent of approximately 700 million Swiss francs, as compared with 900 million in 1977, notably because of exchange rate fluctuations.

In Europe, interest rates on the various capital markets kept the same relative positions as before except on the Swiss market where the rates again declined. On the dollar market, on the other hand, the rising trend of interest rates went on because of trade balance and inflation problems in the United States together with the continuing decline of the dollar.

The capital resources obtained by EUROFIMA were used to finance for the ten shareholding railways of the Company – 3 electric locomotives, 61 diesel locomotives, 51 multiple units, 15 railcars, 159 coaches and 2,585 wagons (including 2,029 bogie wagons).

It must be pointed out that, in order to benefit from the attractive level of Swiss interest rates, the Company began a series of reimbursements of previous loans before the due date and re-financed the contracts concerned on distinctly better terms.

As regards purchases of rolling stock, the delivery of European standard coaches entered its final stage.

On the financial side, the Company's performance is fairly good despite the impact of the exchange rate fluctuations already mentioned. Total assets on the balance sheet at the end of 1978 amounted to 4,878 million Swiss francs (as compared with 4,651 million at the end of 1977 and 4,266 million at the end of 1976). The 1978 surplus available for distribution, Sw. Frs. 18.3 million (18.6 million in 1977) will be sufficient to cover the statutory dividend to shareholders and a further allocation to the Company's reserves.

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FINANCING RESOURCES OF THE COMPANY

LOANS:

Six public loans were issued on the international market and on the Swiss, Japanese and Luxembourg markets.

The terms were as follows:

| <i>Nominal amount</i> | <i>Nominal rate (%)</i> | <i>Maturity (years)</i> |
|---|-----------------------------|-----------------------------|
| 40 million US \$ (January) | 8.50 | 10 |
| 100 million D. marks (February) | 5.50 | 10 |
| 70 million Swiss francs (March) | 3.75 | 15 |
| 500 million Luxembourg francs (May) | 7.50 | 10 |
| 10 million yen (May) | 6.30 | 12 |
| 70 million Swiss francs (September) | 3.75 | 15 |

Three private loans were issued on the following terms:

| <i>Nominal amount</i> | <i>Nominal rate (%)</i> | <i>Maturity (years)</i> |
|--|-----------------------------|-----------------------------|
| 20 million US \$ (July) | 8.50 | 7 |
| 80 million D. marks (October) | 5.50 | 10 |
| 35 million Swiss francs (November) | 3 | 10 |

Long and medium-term loans and credits:

Loans and credits payable in Swiss Francs, amounting in all to 137 million, were obtained at rates ranging from 3 to 4.25 per cent.

Own Funds:

The Company contributed 13 million Swiss francs from its own funds to supplement those listed above.

ROLLING STOCK FINANCED

The rolling stock financed in the course of the financial year under review is listed below:

French State Railways (SNCF)

5 4,600 kW electric locomotives
15 railcars
13 (ten-unit) high-speed electric trainsets
71 bogie wagons

German Federal Railways (DB)

39 2,000 kW diesel locomotives
19 1,000 kW diesel locomotives

Italian State Railways (FS)

65 passenger coaches
1,342 bogie wagons

Belgian State Railways (SNCB)

9 (two-car) electric multiple units
55 passenger coaches

Netherlands Railways (NS)

5 (three-car) electric multiple units
3 (two car) electric multiple units

Spanish State Railways (RENFE)

17 (three-car) electric multiple units
340 bogie wagons

Yugoslav Railways (JZ)

1 925 kW diesel locomotive
17 passenger coaches
276 bogie wagons
260 two-axle wagons

Austrian Federal Railways (OeBB)

8 5,200 kW electric locomotives
2 (six-car) electric multiple units
2 (three-car) electric multiple units
22 passenger coaches
221 two-axle wagons

Swedish Railways (JS)

75 two-axle wagons

Portuguese Railways (CP)

2 2,000 kW diesel locomotives

Joint order for standard european coaches

The last of the 500 standard European coaches on order were delivered at the end of 1978.

C – ROAD TRAFFIC, SIGNS AND SIGNALS

For the reasons stated in Part I of this report, the Committee for Road Traffic, Signs and Signals has been retained in its existing form within the structure of the Conference. In this connection, it might be appropriate to recall the terms of reference given to the Committee, on a continuing basis, by the Council of Ministers:

- 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 may wish to formulate.
- To 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 while also safeguarding and if possible strengthening, the co-ordination achieved at international level.

In accordance with these instructions, the Committee completed its enquiry into a number of points during the year under review; the most important items was doubtless that entitled "residential areas" which was first raised by the Delegation for the Netherlands where several such areas already exist and which is receiving attention at present in many countries.

The term "residential area", so-called because of the failure to find a better equivalent for "woonerf", the term used in the Netherlands, does not perhaps give a true idea of the kind of urban zone to which better provisions for traffic and use of the carriageway by motorists and pedestrians refers. In practice, it means a residential zone containing one or more roads where there is no longer a distinction between carriageway and pavement. In such a zone, there must of course be special arrangements to ensure that vehicles are not driven too fast. It constitutes an interesting attempt to improve the living conditions of local residents and facilitate social contacts, but relationships between road-users must obviously be subject to special rules, notably to ensure the safety of pedestrians and children since they are entitled to walk or play over the whole length and width of the carriageway.

It was with this in mind that the Council approved the following traffic rules for such areas:

- a) Drivers must not put pedestrians at risk nor behave in an obstructive manner. If necessary, they must stop.
- b) Pedestrians shall not impede vehicular traffic unnecessarily.

Rule a) in practice gives pedestrians precedence over drivers. Rule b) is intended to guard against needless obstruction of vehicles by pedestrians. The understanding is that governments are not bound to adopt these rules word for word in their national legislation and may adjust them to suit their own legal practice. Conformity with the spirit of the provisions is all that is required.

It is also essential to provide for special road signs at the entry and exit of such areas.

A special sign of this kind was adopted after careful consideration of various designs, including of course the one already used in the Netherlands, and after tests and investigations as to their intelligibility for drivers and many day and night visibility tests. The fact that this new sign differs from that already used in the Netherlands raises some problems for the Delegation of that country and a long period of transition will be needed before it can introduce the new design selected by other European countries.

A new sign to indicate escape lanes has also been adopted as the Convention on Road Signs and Signals made no provision for this device which has proved effective in certain countries. Escape lanes are short sections of road leaving the main road at a narrow angle so that the driver of a runaway vehicle can enter them without changing direction to any great extent. Escape lanes terminate in an arrester bed filled with sand or gravel which brings the vehicle to a complete stop.

The Council has adopted a new sign for closed lanes. On multi-lane roads where traffic flows are dense and usually fast, a dangerous situation arises when the number of lanes is reduced either permanently because the carriageway is narrowed or temporarily because of roadworks. This new sign can be adapted to any local circumstances and so enables drivers to see clearly which lane or lanes are closed. This is an important factor for road safety, especially on roads with fast-moving traffic.

These various provisions adopted by the ECMT are gradually embodied in national legislation and, as was the case for previously adopted legislation, they are transmitted to the ECE with a view to possible amendments to the World Convention on Road Traffic and Road Signs and Signals.

The Council of Ministers also approved the Committee's future programme of work. The items listed below roughly outline its contents:

- Signing of rules applicable to separate traffic lanes
- Replacement of inscriptions by symbols on additional panels
- Creation of a "tunnel" danger sign
- Desirability of an international definition for "earth-track" (dirt road) and "path"
- Regulation on simultaneous flashing of all a vehicle's direction indicators (distress signals)
- Forfeiture of right of way
- Interchangeability of foreign and national driving licences
- Definition of residence
- Use of motorways and similar roads by learner-drivers
- Marking of traffic lanes by cat's eyes instead of lines
- Regulations for the wearing of helmets by motor cyclist and moped riders
- Regulations for the compulsory wearing of seat belts and exemption
- Colour of signs indicating places of interest
- Signing of road works and obstacles
- Use of audible warning devices and headlight flashing
- Special audible and luminous warnings for priority vehicles
- Lighting, general requirements
- Passing lights (dipped beam headlights)
 - a) in built-up areas
 - b) in daylight
- Noise, smoke, etc.
- Lay-bys – Distances to be kept between heavy vehicles
- Control of parking at bus stops
- The concept of "seats" in automobiles
- Pedestrian precincts
- First-aid kits
- Chicane for reducing the speed of vehicles
- Amendment of the definition of Sign D9 "Snow chains compulsory"
- Design, meaning and uniformity of luminous signals

- Problems concerning priority roads in which there is a bend :
 - a) signing of such bends;
 - b) road markings;
 - c) vertical signing.
- Marking of the line at which vehicles must wait near:
 - a) a "stop" sign;
 - b) a "giveaway" sign;
 - c) level crossings;
 - d) lanes for left-turning vehicles.

This programme shows that the Committee for Road Traffic, Signs and Signals keeps in close touch with the real problems which arise in connection with road traffic developments so that it may be able to do the best it can to ensure the smooth and safe flow of traffic.

D – ROAD TRAFFIC FLOWS DURING THE SUMMER MONTHS

The question of road traffic flows during the summer holiday months (and a directly related topic, the Staggering of school holidays) was raised at the December 1977 session of the Council of Ministers. At that time, the information available on the planning of school holidays in 1978 showed that the dates selected for the beginning of the summer holidays in several parts of Europe would coincide, and this gave reason to fear especially troublesome traffic flow difficulties, especially for the first July weekend during that year.

As the timing of the summer holidays was already decided for the year in question, the Council asked for an investigation of the various short-term measures which might mitigate the effects of the situation specific to the year of 1978. At longer range, however, it was felt that the ECMT should consider the various ways in which the Ministers of Transport, by joint consultation at international level, could take steps to avoid the familiar difficulties encountered at the beginning – and to some extent at the end – of the summer holidays.

Here, the pre-eminent considerations are traffic flow and road safety, but, more generally speaking, public opinion nowadays is increasingly inclined to see this matter as an important aspect of the quality of life. Indeed, road congestion, especially on trunk routes is not only conducive to accidents it also entails a waste of energy and, even more so, considerable inconvenience to road users, young and old, as they have to put up with wastes of time, often under trying conditions, which are much resented.

Admittedly, the matter at issue cannot be restricted to considerations falling within the competence of Ministers of Transport as investigation shows that there is a vitally important facet of it which lies outside the transport sector and is a matter for other central or local government, or indeed private, authorities. On this point there can be no doubt that the solution of the difficulties encountered largely depends on better staggering of the dates on which summer holidays begin and end, for it is common knowledge that these have a major bearing on the generation of traffic peaks. But it must be emphasized that even though Ministers of Transport are not the only ones concerned, they are very much involved as they have to bear the burden of users' complaints about traffic conditions, and that is why they must make representations in various ways to all the appropriate authorities.

This being so, the Council of Ministers of the ECMT set up an ad hoc Group which was to submit an analysis of the problem together with an exploratory review of possible improvements. In the light of the work of this Group, it seems that improvements could be made by a combination of measures falling under three main heads as follows:

- the first concerns holiday planning arrangements; school holidays, those of the big firms when they close down for a specific period, and the arrangements concerning dates of occupancy of accommodation at tourist resorts;
- the second concerns traffic planning and a whole series of measures to ease the flow of traffic and avoid road congestion;

- the third series of measures concerns user behaviour and it essentially consists in disseminating information, notably through the mass media, to give more effectiveness to the measures designed to ease the flow of traffic.

In the light of the foregoing analysis, the operational results of which were broadly approved by the Council at its December 1978 session, it will be for the Committee of Deputies to formulate practical proposals.

It may be added that, as mentioned in Chapter 3 below, the Conference also held a Round Table on this topic at the end of 1978 when it was considered in a broader context, embracing holiday traffic generally and all modes of transport.

E – ROAD SAFETY

The 25th anniversary of the ECMT was a most suitable occasion for the Council of Ministers to discuss two important matters each of which would have a particularly significant bearing on the shaping of the Conference's work on road safety. The first of these topics concerns the wearing of seat belts and the other is driver training.

As regards seat belts, it must first be recalled that in June 1973, the Council had already adopted a resolution containing six clear recommendations. The most important of these suggested that, outside built-up areas, seat belts should be compulsorily worn by occupants of private passenger cars which could be fitted with such belts. After five years, it was felt that the time had come to take stock of developments and of experience in each country. A report on these lines was accordingly prepared by the Road Safety Committee for the Council of Ministers. This study highlighted the unquestionable effectiveness of seat belts, as evidenced both by accident statistics and by very many laboratory tests. Indeed, the information collected has established without question that a seat belt correctly worn at least halves the risk of death for car occupants involved in an accident, and also very substantially reduces the severity of their injuries. It is accordingly fair to say that, apart from certain types of very exceptional accidents where the wearing of a seat belt can be an aggravating factor, it does provide a real and substantial safeguard for passengers in the great majority of cases and is, in consequence, among the most cost-effective road safety measures. Since the adoption of the 1973 resolution, 15 European countries have already made the wearing of seat belts compulsory. At its meeting in Brussels, continuing on the same course, the Council agreed on some additional points which could be included in an overall policy on this subject, the aim being to bring about in each country and within reasonable time limits, the use of seat belts for the protection of occupants of all motor vehicles except of course for public transport vehicles and a few other fairly limited special cases. Thus, the aim of this policy is gradually to extend provisions that are already widely applied, notably to make them cover the rear seats of private passenger cars, commercial vehicles and the road network as a whole, both inside and outside built-up areas.

The new resolution adopted by the Council also contained other important points: some concerned technical improvements such as the promotion of inertia reel belts, standardization of belt couplings, and other aspects relating to information and publicity campaigns for the wearing of seat belts and various legal aspects.

While this action is of particular significance because its effectiveness, driver training has also become a topic of primary concern for Ministers responsible for road safety. It seems appropriate to point out in this connection that as traffic rules have been progressively developed and refined they have inevitably imposed more and more constraints on road users and so it seems that we are coming close to a certain threshold beyond which their practical application may be threatened for psychological reasons and having regard to possibilities of enforcement. It has accordingly become increasingly necessary to take continuing action for the proper training of drivers, such instruction not being limited to formal knowledge of the highway code, the rules of which might usefully be simplified, but more particularly designed to make those concerned think and behave in such a way that they will be able to drive as safely as possible.

This was the main thrust of the second Resolution adopted by the Council of Ministers at its Session in Brussels. The contents of this Resolution were in fact based on the findings of several scientific research studies conducted under the aegis of the OECD on the following subjects: young driver accidents, driver instruction and accidents involving users of two-wheeled vehicles.

Of the many useful lessons that the ECMT was able to draw from these findings (in accordance with a co-operation procedure which had already been fruitful on previous occasions) one of the most striking findings was that young drivers under 25 whose driving licence is less than three years old have a disproportionately large number of accidents which ranges, depending on the country concerned, from twice to four times the average accident rate, and one may assume that this particularly high rate is due to the lethal combination of inexperience coupled with the natural inclination of the young to take risks. It follows that driver instruction should be so designed as to shorten the accident-prone period which follows the driving test. Seen in this light, driver instruction must be comprehensive and encompass traffic hazards and how to avoid them.

The recommendations contained in the Resolution adopted by the Council are essentially based on the foregoing principles and their aim is gradually to introduce a comprehensive and coherent system of driver instruction from nursery school to driving licence and even beyond, the main purpose being to ensure that road user behaviour will be closely and lastingly in conformity with road safety requirements under present-day traffic conditions.

As regards this last point, the Ministers of Transport have been giving attention for many years to the safety of children in road traffic and especially to road safety education in schools. In the past, the Conference has organised jointly with the Council of Europe two conferences of government experts in order to formulate the principles, content, methods and framework of such training with a view to its being extensively and effectively applied throughout Europe.

As a long time has now elapsed since the last joint conference held in Vienna in 1971, the ECMT authorities concerned considered it important that another meeting should be held so as to take stock of the situation, enquire into the difficulties encountered and see how to proceed. The situation has developed as the years went by both as regards education and traffic and road safety problems; fresh thinking is accordingly needed to see what remains to be done.

The ECMT considers that instruction on anything connected with the safety of human beings should now be in the forefront of educational aims since it affects children's present and future lives. The work of the Conference shows that this scourge of present-day society – the far too many road casualties of school age – must not be underestimated.

As already pointed out, road safety policy is increasingly a matter of road user instruction, notably training designed to ensure that driver behaviour will be as it should be. As in many other fields, such training is all the more effective if it begins in early childhood. That is why, even in 1977, the ECMT stressed that a further joint conference between high-level specialists on education, road traffic and road safety would be most useful. It considers that a Conference of this kind would allow further progress in a field which is of prime importance for the safety of young people and for road safety generally.

Though it had taken the necessary steps for this Conference to be held in 1979 (the year that the United Nations Organisation has declared to be "the International Year of the Child") budgetary considerations in the Council of Europe have made it necessary to postpone the arrangements for this Conference, possibly until 1980. Within the ECMT itself, other road safety activities have been started or continued by the Committee concerned.

As stated in Chapter I of this report, this Committee has been maintained as to its role and functions notwithstanding the structural changes made in the course of the year 1978. The reasons for this are obvious: This is a field of such a kind and where developments are such that it calls for special skills and must be kept continually under review.

As in previous years, this Committee has kept in particularly close touch with the Road Research Department of the OECD. At the Committee's request, this OECD department had included in its programme two topics which seemed more particularly to call for scientific investigation before practical proposals could be submitted to political decision-makers: one concerned improvements to road safety at night, the other the prevention and repression of drinking and driving.

As regards the analysis of the problem concerning the fairly consistent increase in the number and severity of accidents occurring at night in the European Member countries, the OECD Road Research Department communicated to the Conference at the end of 1978 a preliminary report containing some proposals for measures which

were immediately applicable and for which there was sound scientific evidence as to their usefulness, effectiveness and acceptability. In the light of these proposals, the Committee will very probably be able to submit a draft resolution on the matter to the Ministers of Transport at their spring 1979 session.

After consultation with the ECMT on activity programmes the OECD had also set up a Research Group to look into existing knowledge on the role of alcohol and drugs in road accidents. This Group took into account the results of research conducted over the last ten years in this difficult field to see the measures and practices which had proved effective and which could be recommended for general application in the Member countries. Meanwhile, the Road Safety Committee conducted a wide survey among national delegations to clarify certain aspects: blood alcohol thresholds in force, powers of the police, screening procedure, current research, control strategy, information campaigns and penalties imposed by the courts. In the light of the information collected as regards both research and practice, the Committee now intends to formulate operational conclusions which should cover a number of determining factors such as questions concerning the fixing of a legal threshold, the principles and circumstances of control, the methods and techniques of such controls and the problem of penalties and rehabilitation.

As this is a complicated and tricky subject, the Committee considers that the work on this must be conducted with the greatest possible care, so it will give itself enough time to investigate the matter in depth before referring it to the Ministers of Transport.

Another of the ECMT's road safety activities in 1978 was the organisation, in close co-operation with the *Prévention Routière Internationale*, of the fourth international poster competition on the safety of users of two-wheeled vehicles. The purpose of this contest was the designing of a poster which could be used for various countries' publicity campaigns recommending motorists to be particularly cautious about two-wheeled traffic. As stated in Chapter III of Part I, many of the entries were displayed at the exhibition on "European transport and the activities of the ECMT" held at the main station in Brussels to activities of the ECMT" held at the main station in Brussels to celebrate the 25th anniversary of the Conference. Before this exhibition, an international jury comprising representatives of the Conference and the PRI had selected the four best entries and the winning entry received the prize awarded by the ECMT.

F – TRANSPORT OF HANDICAPPED PERSONS

In December 1977, as suggested by the French Secretary of State for Transport, Mr. Cavaillé, the Council of Ministers of the ECMT instructed the Committee of Deputies to prepare a report, at the earliest possible date, on the situation concerning transport of handicapped persons in Europe. It was to include also a series of measures which could facilitate the mobility of the people concerned.

The Committee of Deputies accordingly appointed an ad hoc Group under French chairmanship in January 1978. The Group held four meetings during the year and submitted a report together with a draft resolution to the Council of Ministers in December 1978. Complete versions of these documents, which were approved by the Council of Ministers, are contained in Volume II of this report.

To prepare its report, the ad hoc Group sent a questionnaire to Member countries of the ECMT and the Chairman of the Group took part in a Symposium sponsored by the United Kingdom, France and the United States at Loughborough University of Technology. This Symposium provided a basis for the thinking of the Group and this was supplemented by the countries' replies to the questionnaire.

Examination at international level of the problem of transport of handicapped persons has shown it to be similar in most ECMT Member countries. Whatever the country, anything which helps to remove the various obstacles impeding a handicapped person's mobility has an important bearing on the general process of readjustment and reinstatement of the life of the community. It has to be admitted that though the European transport system is highly sophisticated, it was not designed to cater for the needs of handicapped persons, especially those who cannot move about unaided and, as a general rule, it is still very little adapted to this purpose. The problem is all the more difficult because the solutions are costly, often involve technical difficulties and also because the concept of handicapped persons is by no means easily definable in relation to the measures required. It is indeed not a simple matter to see how to deal with every kind of handicap as this ranges from the difficulties of access to transport services experienced by the sick and elderly to the much more severe handicaps of those who cannot

move about unaided, notably those who are carried in wheelchairs. It must indeed be borne in mind that the word "handicapped" applies to a series of persons whose difficulties in moving about are of very different kinds. In most countries, not more than 5 to 10 per cent of the total handicapped persons population are obliged to use wheelchairs. It is in this particular category of handicapped persons that the measures required are most specific and frequently most difficult to provide for. The Conference has given special attention to this matter without of course neglecting all the aspects concerning possible improvements for the use of transport by other handicapped persons whether their handicap is permanent or not, total or partial, physical or mental.

The problem is in fact somewhat different depending on whether short-distance transport (notably urban transport) or long-distance transport is involved.

The general measures taken by urban transport operators, on the one hand to improve their standard of service (i.e. speed, comfort and frequency) and, on the other hand, for the commercial viability of the business (maximum occupancy) have not by any means removed the obstacles to the use of such transport services by handicapped persons, and may even to some extent have added to the hardship of access.

For all these reasons, adjustments to urban transport facilities involve very tricky technical and financial problems which call for careful study. In this connection, while it was found possible to enable a notable proportion of the "self-sufficient" handicapped persons population to use public transport services by making improvements of limited scope as regards accessibility of terminal installations and vehicles, such adjustments are more complex and often by no means easy for handicapped persons who cannot move about unaided. This being so, one must specially bear in mind the organisation of transport with specialised vehicles. While the promotion of this arrangement depends on requirements and possibilities, it certainly provides the people concerned with the flexibility and quality of service adapted to their circumstances that the people concerned may wish for. Procedures whereby personalised financial aid is given to handicapped persons for the use of a private car, as an alternative solution which may often be preferable that of transport subsidies, also merit very serious consideration. On this point it should be borne in mind that about half the people who are wheelchair bound can drive a car if it is suitably converted; in any event, besides its flexibility and convenience for handicapped persons, private cars or taxis are often the right solution to look for an ultimately the least expensive.

In the case of long-distance transport, the problem is different. The improvements here can affect adjustments to facilities of access to terminal installations and to vehicles, and improvements to the internal fittings of such vehicles. The action to be taken may require international co-operation, notably in the case of the railways and airlines.

In short, the discussion at the meeting of the Council of Ministers in December 1978 threw light upon the difficulties encountered in enabling handicapped persons to move about and on the ways of dealing with this. The Council particularly emphasized the importance it attached to the problem of handicapped persons being given all the attention it deserves, and that everything should be done at official and private level to that everything should be done at official and private level to cater for a social need which should rank among the foremost concerns about a better lifestyle for the community.

The Council of Ministers accordingly decided that this matter should be periodically reviewed by the Conference and, in consequence, that it should come up for further consideration in 1980 or 1981.

CHAPTER III

ECONOMIC RESEARCH AND DOCUMENTATION

1. Since 1967, the ECMT has been engaged in transport economics research activities in order to provide Ministers with objective data in the light of which to reach their policy decisions.

This activity has been gradually amplified and put on a more systematic basis. Its main features are, first, the organisation of two-yearly Symposia bringing together some 300 participants (from academic, government and business circles, besides representatives of the trade press and of international organisations concerned with transport) to discuss a general topic; secondly, Round Table meetings at which 15 or 20 people, chosen for their special qualifications, carry out expert studies on specific subjects.

The choice of subjects to be discussed rests with the Economic Research Committee, to whom it also falls, under the guidance of the Committee of Deputies, to ensure general consistency and pay due regard to areas where general transport policy needs further refinement.

2. In 1978, the **Economic Research Committee** held three sessions in the course of which it considered the ECMT's research activities since the last session in 1977 together with those then being planned. These proceedings were concerned, in particular, with the following matters:

- drawing conclusions from Round Tables;
- following up the document on the London Symposium (1977) approved by the Council of Ministers;
- giving due regard to the desire expressed by the policy-making authorities of the Conference that subjects selected for research should be more closely consonant with topical policy issues; on this point, the Committee has endeavoured to determine the topics and dates of Round Tables in such a way as to ensure that the ECMT's research activities can provide timely material for discussion and decision-making: that is why is brought forward the dates for the Round Tables dealing with holiday traffic (Round Table 44) and infrastructural capacity problems raised by international transit (Round Table 45) so as to throw some scientific light on these matters and accordingly facilitate the work ECMT authorities which were having to deal with very similar problems from a policy angle at that time;
- making arrangements for wider dissemination of Round Table reports;
- supervision the preparation of Round Tables to be held in 1979 and 1980 in accordance with the programme adopted in 1977:
 - Round Table 45: "Infrastructural capacity problems raised by international transit".
 - Round Table 46: "Tariff policies other than road pricing for urban transport".
 - Round Table 47: "Scope for railway transport in urban areas". This Round Table will be more particularly concerned with a large number of case studies. It will be held in Hamburg in the course of a large-scale international transport exhibition.

- Round Table 48: "Transfers through the transport sector; evaluation of redistribution efforts".
- Round Table 49: "Competitive position and future prospects of inland waterway transport".
- deciding on a general topic and the sub-topic for the 8th International Symposium on theory and practice in transport economics; appointing and briefing two rapporteurs for each sub-topic;
- keeping under review the integrated documentation system; a report outlining the action to be taken in this respect was submitted to the Committee of Deputies. This report fell into three parts:
 - . a brief background review of ICTED showing how the system had developed, specifying how the new management unit should be made up and how it should operate;
 - . an annex describing the field to be covered;
 - . an annex showing how far harmonization with IRRD was feasible.

In this connection, the Economic Research Committee also emphasized that the results achieved should be widely publicised to bring them to the attention of anyone interested in ICTED.

3. The ECMT has begun to prepare the **8th International Symposium on theory and practice in transport economics** to be held in Istanbul from 24th to 28th September, 1979. The main topic will be "Transport and the Challenge of Structural Change".

Discussion at the symposium will be based on six introductory reports on the following sub-topics (two reports for each):

1° Changing patterns of economic activity, trade and freight transport:

- a: redistribution of economic activity and trade; transit and infrastructure (Rapporteur: Professeur Kuiler, Erasmus University, Rotterdam);
- b. combined transport; technical, economic and commercial aspects (Rapporteurs: Mr. Callou, CERLIC, Sevres and Mr. Schwartz, IRT, Arcueil).

2° Decentralisation and regional development (passengers and freight):

- a. transport systems and regional development: countries with highly industrialised economies (Dr. Meier, Zurich University);
- b. transport systems and regional development: countries with less industrialised economies (Rapporteurs: Professeur Lamer, Institute of Transport Sciences, Zagreb and Professor Giannopoulos, University of Salonika).

3° Behavioural changes:

- a. passenger transport: mobility and lifestyle (Rapporteurs: Mr. Brög, Sozialforschung Brög, Munich and Professor Schuster, Johannes Kepler Universitat, Linz);
- b. freight transport: shippers and forwarding agents (Rapporteur: Mr. Baxter, National Ports Council, London).

A general introduction may be submitted by Professor Lesourne, Director of the OECD "Interfutures" Project, on the following subject: "Long-term trends in structural change and their influence on transport".

A special report by host country experts will give symposium participants an account of Turkey's general economic situation and transport policy.

In order to prepare the symposium before the stage at which introductory reports are drafted, the Secretariat sent each rapporteur detailed particulars as to his terms of reference and the contents of this report; this included a list of the main points calling for careful attention.

The arrangements for the symposium proceedings will be on the same lines as on previous occasions: each sub-topic will first be discussed by all participants in plenary session and then studied by a panel consisting of a few specialists on the subject concerned. Furthermore, in accordance with the procedure adopted at the London symposium:

- chairmen at plenary sessions will have a very important role; in an introductory statement drafted in consultation with the rapporteurs, each of them will summarise the contents of the paper submitted and draw up a plan for the discussion so that the proceedings in plenary session may be better structured;
- requests to speak in plenary session will no longer have to be made in writing beforehand but can be submitted as the discussion proceeds. They must, however, keep within the discussion plan laid down by the chairman presiding over the session;
- each panel will meet privately in the evening of the plenary session and discuss the subjects in depth in the light of what has emerged during that session;
- the panel's open meeting will begin the following morning with an address by the Chairman summing up the conclusions of the private meeting and briefly summarising the problems raised in plenary session the day before;
- at this stage, panel members will have an opportunity to make short statements if they take a different view or if they have an important additional point to make;
- the Chairman will then open a "structured" discussion, bringing in the general audience;
- as a final stage, when the general discussion comes to an end, the panel will summarise it.

As in the case of the three previous symposia, a general report will be published presenting the more important conclusions of the statements and discussions. The date of publication will be early 1980.

4. In 1978, the ECMT held five **Round Tables**, taking special care to choose their dates and topics to suit the policy concerns of the Conference. The purpose of these activities is to provide precept and information for practical application as a first step in relating theory and practice, a process which is continued by organising discussions among Ministry officials concerned. **It must be pointed out that the conclusions reached by Round Tables are the outcome of discussions between economic research specialists and, though they provide an objective contribution which is of value to the authorities concerned, they do not in themselves commit the conference as to policy.**

A – ROUND TABLE 40

The topic for **Round Table 40, "Paratransit"**, was dealt with in a general introductory report by Professor Ph. H. BOVY and V. KRAYENBUHL, Lausanne, followed by several other papers dealing specifically with the use of taxis, demand-responsive systems, the "dolmus", car-pools and services provided by employers.

1° – Definition of Paratransit and scope of the study

Between the transport needs that are fully met by the motor car and those for which conventional public transport services are entirely suitable there is a wide range of demand which often remains latent because it is insufficiently catered for. It was to answer all these unsatisfied or insufficiently satisfied needs and at the same time to solve certain problems of city-centre congestion that the concept of "paratransit" came into being in the early 70s. The very many experiments conducted in this field and the study of certain related transport systems which had long been used in Asia and Latin America have brought out the characteristics of this form of transport more clearly.

To give paratransit a useful definition for practical policy purposes, the Round Table decided to tackle the matter from a broad angle by taking into consideration all transport systems not classifiable as conventional use of the motor car or conventional use of public transport.

2° – Paratransit and transport needs

Though still very uneven, the growth of paratransit is not a short-lived technical feature of minor significance; it is the outcome of permanent trends and reflects a true and deeply-rooted sociological scheme of things based on the actual need for mobility. Paratransit systems seem particularly suitable for:

- needs based on principles of equity, such as those relating to the recent concern to make transport services accessible to under-privileged social groups;
- local needs, which usually reflect the awareness of local authorities that better balanced facilities are required in large urban areas;
- needs of certain groups or communities to provide mobility facilities for their workforce or customers etc.

3° – Organisation of paratransit

a) Paratransit and the transport system

Paratransit must be regarded as complementary to conventional public transport not as a competitor. It meets a need for personalisation and specialisation. Changing demand calls for the reshaping of all transport services and a new approach to the entire transport system. The introduction of paratransit systems should be considered in this approach which takes account of needs, and not in isolation from the existing transport set-up.

b) The institutional framework

Two basic principles must govern the institutional arrangements for paratransit systems, namely:

- Protection of dominant public transport undertakings must not be the pre-eminent concern of the co-ordination procedures.
- The institutional framework for paratransit experiments must be so designed that the authorities are able not only to encourage long-term theoretical research activities on these transport techniques but also to promote innovation and pilot projects ensuring the reversibility of the experiments.

It is apparent that the institutional framework of paratransit should be at local authority level since local authorities seem particularly capable of correctly assessing latent demand for mobility and meeting it quickly and suitably, but the central government's role in this field cannot be overlooked; it must remove all legal or institutional obstacles which at national level might impede the introduction of new systems, disseminate the results of experiments and see that the activities of different government departments are co-ordinated.

c) Financial problems

Getting these systems under way is bound to take time; they are indeed chiefly directed to socio-economic groups whose resistance to change is particularly strong. The authorities responsible for introducing paratransit should therefore generally provide financial resources at least at the beginning, to support experiments with paratransit systems.

The financial problem in such cases should, however, be judged in light of the following points which help to cut them down to size:

- the cost of the experiments is very low in real terms;
- the large-scale economic and financial transfers carried out through paratransit systems are in practice "works bus" services that are paid for by private undertakings;
- calculations based on financial and economic considerations to compare the cost of paratransit with that of conventional public transport call for circumspection; the two types of service do not cover the same needs and the quality of the service provided is not at all comparable. The social impact of the services provided is certainly the major element for assessing paratransit pilot projects and it ultimately lies with the political decision-makers, not the technicians or operators, to judge.

4° – Technical solutions

a) Rural areas

Shared taxi systems and hybrid services seem to be the most attractive forms of transport. The same is true, moreover, of bus pools but these should be subject to careful inquiry as regards true costs, road safety and status of drivers.

b) Urban areas

First it has to be admitted that systems of the "dial-a-ride" type which are too costly and over-sophisticated have to a large extent been a failure.

Minibus with fixed routes and pre-arranged meeting points seem a far more attractive proposition. Besides being less costly, when tested in comparison with dial-a-ride systems they were judged to be just as satisfactory from the user's angle.

The role of taxis deserves further thinking as its possibilities have not yet been sufficiently explored.

Car pooling has at first sight the big advantage of being cheaper both for users and public authorities than conventional services. However, there is as yet little information available on the implications of this transport system for other modes. Moreover, car pooling poses a number of legal problems that cannot be overlooked (status of driver, sharing of expenses, insurance, etc.).

B – ROUND TABLE 41

Round Table 41, introductory report by Professor B.T. BAYLISS, Bath University discussed the following topic: "Role of Transport in counter-cyclical policy".

Passenger and freight traffics do not react in the same way to economic downswings and their reactions also sometimes differ from country to country.

When considering how counter-cyclical effects can be obtained by action on transport the approach should not be confined to a sectoral or modal "budgets"; indeed, the same money can often be more usefully spent outside the transport sector. In fact, two snags which the allocation of funds in periods of crisis may come up against have to be avoided.

First, the borderline between investment and consumption expenditure is not always altogether clear in certain transport undertakings. Secondly, the financial resources for maintaining jobs in the transport industry could be more wisely used to create employment elsewhere at least if the object is to maintain unproductive jobs in transport, since for from solving a basic problem this approach ultimately makes it worse.

Action might be considered with regard to:

- investment;
- staff training;
- the management of the undertakings;
- the administration in charge of transport.

As to infrastructure, the counter-cyclical impact of possible investments must be scrutinised and one cannot simply extrapolate from arguments which were valid in the thirties. In this connection the following trends are worth careful study:

- public works now absorb more capital than manpower;
- international inter-relationships have developed and the effectiveness of local initiatives has accordingly diminished;

since the works in question often largely employ immigrant workers spending little on consumption the multiplier effect attributed to such work is much weakened;

as for jobs procured for the unemployed, the increase in their consumption is very slight because, unlike previous situations of this kind, unemployed workers in any case now have a minimum purchasing power ensured by present-day social policies.

As regards transport itself, investment projects must involve long-term rationalisation; if they are not planned on this basis they may disrupt the transport economy even more.

Means of stimulating the economy should therefore be sought other than through investment in infrastructure. As regards infrastructure priority should be given to improvements (adjustments and extensions) in existing facilities. In the railways however, such improvements may be on a fairly large scale since the lines were generally constructed a long time ago and are not always suited to present demands for speed and capacity.

Since infrastructure investment involves a fairly long period of planning and implementation it may be preferable to have more direct investment objectives, e.g. vehicles. The type of employment stimulated in this way is another important factor to be taken into consideration as an instrument for reflating the economy.

Regional policy requirements are better catered for by improving the efficiency of existing transport services. Improvements can also be made by eliminating the loss factors, in particular by smoothing out traffic peaks.

As to fiscal measures direct to transport, care must be taken not to go too far one way or the other: too big a drop in revenues or rocketing prices. But there is substantial scope for structural changes by reducing fixed taxes and increasing taxes on actual use. This would have the effect of stimulating the purchase and maintenance of vehicles and encouraging the user to choose a mode of transport with more careful regard for real costs. In this way the requirements of the motor car industry could be suitably reconciled with those of transport policy, where land-use and energy consumption are increasingly important considerations.

In conclusion, it may be said that:

- the situation varies considerably from country to country;
- generally speaking, infrastructure investment has less impact than expected;
- such investment has little temporal flexibility;
- this disadvantage could be mitigated if the planning process were shortened, notably if ready-made plans were available; but this would imply far more forward-looking policies than is usually the case at present;
- there is the risk that the stimulating process might get out of hand;
- public works should be integrated with other policy objectives, notably as regards regional planning and development;
- the inflation risks should be carefully gauged and these depend on the scale of the work;
- it is frequently preferable to rationalise and modernise existing infrastructure.

C – ROUND TABLE 42

Round Table 42 discussed: "The influence of measures designed to restrict the use of certain transport modes". The author of the introductory report was Professor M.E. BEESLEY (London).

Noting that the restraints referred to were always a means to an end, the Round Table considered them from an overall angle within which the complementarity of the various measures is a constant factor. This angle of approach itself depends on the objective pursued and more particularly on the specific improvements envisaged as regards quality of life, personal mobility being an essential consideration in this respect.

A distinction can be made between objectives concerning city centres and those relating to inter-urban transport. People affected by restraints must in any event be informed beforehand and alternative arrangements must be made to ensure their mobility (notably in the form of public transport services).

It was found that restraints often reached their limits in urban areas and, when this occurred, the main point was to combine them with suitable complementary measures.

Various measures for the relocation of activities are relevant in this respect, but in all cases their economic implications for a wide series of affected sectors must be carefully evaluated. It is also essential to allow sufficient time for the introduction of a measure to "sink in" before judging its effects.

Systematic preference for the least expensive measures can have ill effects and means should be adapted to the intended purpose.

PRACTICAL INSTRUMENTS

Where inter-city traffic is concerned, this more particularly applies to the assignment of special routes for lorries and to combine transport. Lorry route experiments have not given very convincing results; as for combined transport, the Round Table mostly considered problems concerning the location of terminals in an urban context and recommended the vicinity of ring motorways as the best site.

With regard to urban traffic, it was felt that the provision of public car parks had been carried as far as it could go.

At present, problems concerning restraints arise mainly in medium-sized towns and here they can be solved by suitable organisational arrangements.

Car pooling should be regarded as a useful device for more rational utilisation of urban space whilst conventional public transport should rather be seen as suitable for dealing with dense traffic flows.

Park and ride works effectively only for sufficiently long journeys and, even so, provided that a truly attractive public transport service can be made available.

ALTERNATIVE AND COMPLEMENTARY ARRANGEMENTS

Staggering of working hours can ease traffic flows as long as it is combined with measures which are a deterrent to increased use of cars and an encouragement to practices such as car pooling. This can help to improve the productivity and quality of public transport services. Some of the scope for more widely spread working hours will remain unused unless there is provision for access to certain services at those times.

Clearer thinking is needed on which functions should be "revitalised" inside cities. Before tackling a transport problem, the purposes that the city centre will ultimately serve must first be determined.

The Round Table considered various possibilities and noted various experiments in this field. It recommended in particular that environmental disamenities should be costed as part of the guidance for decision-making.

Improvements to rail freight transport could also give some relief but would imply considerable changes in existing methods.

It was also found that the motor industry was making progress as regards reducing fuel consumption and environmental nuisances. The Round Table considered that moderate restraints should not affect motor production; at most, they might bring about a differently balanced pattern of private car usage.

Round Table 43 (Introductory report by Professor J.P. BAUMGARTNER, Lausanne) discussed "Indicators for evaluating transport output".

Transport statistics can be seen as a determining factor for decision-making in this sector, notably for micro-economic management and macro-economic planning purposes but they are most difficult to compile and involve serious problems of interpretation.

I. Requirements concerning transport statistics

A distinction must be made between the needs of transport operators for management purposes and the needs of planners whose task it is to show clearly the means and ends of transport policy.

1. *The needs of transport operators*

Operators mostly work on the basis of highly disaggregated physical and financial statistics. Two main types of business decision are particularly relevant:

- . "one-off" decisions (e.g. investment appraisal decisions) calling for special sets of figures obtained by specific surveys;
- . routine management decisions requiring long time series.

As a general rule, the statistical needs of operators and planners clearly do not coincide.

2. *Planners' needs for macro-economic purposes*

a) Collection of data

- Usefulness of figures collected: operators must be given convincing evidence that the information they are asked to give is of real use. People questioned in the course of a survey must accordingly be informed of its results.
- Scope of the questionnaire: in order to obtain correct, workable replies, statisticians should draft their questionnaires as concisely as possible. Enquiries should also include both items concerning business management and information required for macro-economic purposes.

To deal with data-collection difficulties, it would be useful to devise an integrated pyramid-type information system with a fairly loose link-up between "management" and "policy-making" needs.

b) Macro-economic data to be collected: general principles.

- Data banks and specific studies: in recent years, there has doubtless been too much of an inclination to put the main emphasis on specific studies and not give enough attention to continuing collection of basic data, yet these provide the essential frame of reference and backcloth for decision-making at fairly short notice.

To ensure that requirements are more effectively dealt with, three kinds of action can be envisaged for statistical information at macro-economic level:

- designing of batteries of indices;
- more effective use of available information, notably by careful co-ordination at every stage;
- systematic adjustment of information collected to match objectives.

II. Designing of indicators

The Round Table considered certain problems concerning the practical design of indicators before giving examples in certain fields where a special effort is required as regards statistics.

1. *Level of aggregation*

a) Aggregation cannot be dispensed with.

Despite their deficiencies, aggregated data are essential indicators for policy-making. They serve as "warning lights", provide "general evidence" and show the outcome of a particular policy.

b) Better aggregation by taking quality into account.

To avoid aggregation of unduly heterogeneous elements, output figures should be weighted with quality indicators, that is, quality-of-service indicators for each mode of transport.

c) Designing of an integrated system of indicators.

Though aggregation is necessary for high-level decision-making, aggregated data must inevitably be based on disaggregated figures. These must be retained since it may be possible to use them for purposes other than those for which they were originally collected. That is why it is necessary to work out a system of statistical indicators combining micro and macro-economic information together with short-, medium- and long-term data.

2. *Physical or value indicators*

This aspect was dealt with at length in the introductory report. Statistics involving prices or costs are very much affected by the imperfections of the market. They raise difficulties of three kinds:

- methodology;
- availability of data;
- interpretation.

Despite their deficiencies, value indicators do however provide useful knowledge which usefully supplements the physical data and information on quality of service.

The only practical solution here lies in the compiling of both physical and monetary series of indicators the use of which is conditioned by, and can be geared to, the intended purpose.

3. *Some useful indicators*

The essential point is to work out statistics covering both supply and demand. This should in particular enable policy-makers to ascertain the efficiency of the transport system and trace the effects of policy decisions.

In this connection, attention may be drawn to the general inadequacy of statistics for road transport and short-distance transport. It also seems necessary to be able to use:

- statistics broken down by type of user and type of trip;
- load factor indicators;
- figures relevant to the part played by transport as a "medium" in the general process of industrial output;
- figures for inter-firm financial relationships.

E – ROUND TABLE 44

Round Table 44 considered the following topic: "Holiday traffic". The introductory report was submitted by Professor C. KASPAR (Saint Gall).

Present holiday traffic problems could be substantially alleviated by staggering dates of departure and return from holidays. But this depends on a series of extraneous factors and may be frustrated to a large extent if carried out at purely national level only.

Furthermore, plans for holidays must be known a sufficiently long time ahead by the various categories of people concerned (users, industries, schools, the tourist trade, etc.). In practice, this means recommending a calendar for the staggering of school holidays covering a series of countries over several years.

Another useful arrangement is to make holidays begin and end away from weekends.

The Round Table more particularly drew attention to the fact that short holidays (which are less determined by considerations of climate) often cause the biggest traffic problems even though they could be fairly easily staggered.

Apart from the staggering of holiday journeys and stays, there are various other ways of improving holiday traffic flows.

- 1° Price differentials, in particular for new "marketing" procedures whereby prices are raised at peak periods and reduced off-peak.
- 2° An alternative to the "congestion pricing" mentioned under paragraph 1 above might consist in instituting a European investment fund for certain trunk routes which are recognised to be of special importance for transit traffic. With a fund of this kind, beneficiaries would share the costs more fairly.
- 3° In certain extreme cases, access can be restrained by limiting transport supply, the aim here being to dispense with the provision of additional capacity at heavy cost for very little output (railways, aircraft and ships).
- 4° Improvements to traffic flow in order to optimise the use of existing infrastructures. Here, optimum output is hampered by unhomogeneous components which slow-down the flow of traffic and diminish road safety. The Round Table accordingly recommended a series of measures combining both economic and road safety considerations:
 - specification of international criteria for the permissible number of car occupants and weight of luggage which can be carried according to the type of car concerned;
 - specification of international criteria for the admission of towed vehicles (suitable weight-to-power ratio and possibly special driving licence);
 - tolls more closely related to real contribution to road congestion for vehicles which hamper the even rate of traffic flow;
 - inducements to use other means of transport for surplus luggage and trailers on long-distance journeys;
 - development of hire services for motor vehicles, caravans and boats at holiday makers' destination points.

In short, the optimum flow of holiday traffic presupposes the fulfilment of two conditions:

- optimum use of tourist accommodation capacity;
- achievement of a sufficient rate of return (both for the operators concerned and the community generally) on the transport and accommodation facilities provided.

It must also be borne in mind that tourist traffic is part of a much wider problem which embraces many sectors and is affected by factors many of which are outside the transport sector itself.

5° A Regional Round Table was held at Helsinki from 26th to 28th September, 1978 at the invitation of Finland and under the joint patronage of the ECMT and the host country. The essential purpose of regional round tables is to take up particular topics already discussed in fairly general terms at a round table, and consider them in greater depth from the specific point of view of countries which have certain concerns in common. In particular, they provide an opportunity for specialists in the subject to compare ideas with transport experts and practitioners in the countries concerned.

A. The topic for the first part of the Helsinki Round Table proceedings was "Pricing the use of infrastructures". There were three introductory reports for this first subject:

- one of them dealt with it from a theoretical angle, i.e. the report for the seventh round table by Mr. E. Quinett (Ministère de l'Équipement, Paris) and M. H. Schuster (Berlin University);

- the two others discussed it from a practical standpoint:
 - one was submitted by Mr. B. Hallsten (Stockholm). It dealt with Swedish studies on transport policy with special reference to infrastructure pricing;
 - the other, submitted by Mr. Talvitie (Helsinki), described the situation in Finland with regard to the topic at issue.

B. The second topic for the Helsinki regional Round Table was "The benefits and costs (at national level) of government intervention in the normal process of setting freight transport prices". The discussions were based on:

- the reports submitted by Mr. Del Viscovo (Centro Studi Sistemi di Trasporti, Rome) for Round Table 22;
- a paper submitted by the ECMT Secretariat: "Some recent thinking on freight transport pricing" which discussed the findings of two recent studies on the subject, i.e. the "Guillaumat Report" on general policy guidelines for inland transport (France) and a report on Switzerland's overall transport strategy;
- reports by Finnish experts (J. Sauna-Aho, P. Virkkunen and R. Rinne) describing the transport situation in their country for each mode.

6° The ECMT continued its documentation activities in 1978.

A. Current research

Because of the increasing number of research projects mentioned in the Six-Monthly Bulletin, a new photo-composed layout has been adopted so as to provide more information in a less bulky publication. It has also been possible to apply the conversational mode technique for data processing, which means that less time is needed for updating operations. These innovations are a token of the dynamic approach to this activity which users take a close interest in.

B. International co-operation in the field of documentation (ICTED)

The Management Group instituted the year before more particularly looked into the definition of the field covered by ICTED and the various conceivable forms of IRRD/ICTED co-operation. Its recommendations were submitted to, and approved by, the Economic Research Committee on 9th June, 1978, and the Committee of Deputies on 6th July, 1978. A well-balanced procedure, providing for the co-ordination of the rules for data input and a standard exchange format was preferred as it was judged to be technically the most cost-effective. Two working parties were appointed to consider data-processing and terminology problems. The Secretariat also updated and published in three languages the second edition of the Transport Economics Thesaurus. All these operations were welcomed by ICTED network participants who had emphasized that the needs of transport documentation users must be catered for.

7° **Noteworthy developments concerning ECMT co-operation with other international organisations** in matters of research in 1978 were as follows:

A. The ECMT began the preparations for a seminar organised in co-operation with the OECD on the general topic of "Urban transport and the Environment". This seminar will be held from 10th to 12th July, 1979. (See Part 2, Chapter II A).

B. Arrangements are being made within the ECMT to ascertain the implications for each country of the international study on the inter-city passenger requirements (Projet 33) which was carried jointly by the ECMT, OECD and the European Economic Community. To this end a questionnaire was sent to the countries of the Conference in order to obtain their comments in homogeneous form. The replies will be examined at the beginning of 1979 and any action to be taken on this will then be specified.

C. In 1978, the ECMT continued to participate as an Observer in the freight transport forecasting exercise undertaken by the European Economic Community. This study was completed at the end of 1978 and the results will be published in 1979.

Part III

Traffic and Investment trends 1977

CHAPTER I

GENERAL

Introduction

1. This report on the development of transport in the ECMT region presents three chapters dealing with rail, road and inland waterway transport. The final chapter also deals with pipelines and ports.
2. The statistical tables which form a major part of this report and which have in previous years been presented in the body of the report are presented for the first time in an Annex with a list of contents for ease of reference. These tables are based on information submitted annually by the ECMT member countries.
3. The following remarks on some of the developments in transport during 1977 and over the previous decade serve as an introduction to the more detailed commentaries in chapters II to IV.

Main Features in 1977

4. The continued growth in road passenger transport in 1977 followed the trend which has been evident throughout the seventies, and only in the case of the railways, with passenger traffic relatively static since 1974, are there any indications of a lasting effect of the economic upheavals of the previous few years on passenger travel. (table A).
5. Similarly in the freight sector the railways have done less well than other modes with carryings dropping by 2.5% (in 18 countries) between 1976 and 1977 while inland waterway traffic increased by 3% and road traffic by 2.5% (10 countries). However the problems of recovering from the fall in demand for freight transport during the period following the oil crisis have not been confined to railways; inland waterway traffic in 5 countries remained slightly below 1970 levels and some 6% below the peak of 1974 and pipeline transport only just returned to the volume handled that year.
6. Only road transport has substantially increased the volume of freight carried and its share of the market in 10 countries increased to over 60% in 1977 (excluding pipelines).

Freight Transport

7. Rail freight tonne-kilometres in 1977 were 9% down on 1970 as a result of a substantial decline from the peak traffic of 1974. Although traffic recovered slightly in 1976 after the slump in 1975 this recovery was not maintained. Several countries saw increased traffic in 1977 but these were counter-balanced by traffic losses in most of the larger ECMT member countries. Road, inland waterway and pipeline freight traffic in 10 ECMT countries increased between 1976 and 1977, as can be seen in Table B although in the case of inland waterways the recovery of traffic lost in 1975 has been slower than for the other two modes.
8. In these countries the steady growth of road haulage contrasted with declining rail freight and fluctuating levels of inland waterway traffic. While freight traffic as a whole increased by over 14% this expansion was confined almost entirely to road transport which increased its market share from 47% in 1970 to 55% in 1977. Pipelines transport accounted for a fairly steady share of freight transport in these countries increasing slightly to 9% in 1977.

International Freight Transport

9. International freight transport displayed similar trends, although in the 10 countries represented in table C it can be seen that inland waterway transport was the dominant inland mode. Road transport almost doubled between 1970 and 1977 and increased its share of the international market from 22% to 34% most of this at the expense of the railways. The importance of inland waterways in international trade offers a possible explanation for the relatively better performance than the railways' over recent years in the face of competition from road transport.

Passenger Transport

10. The earliest effects of the oil crisis were seen in the decline of private passenger road transport during 1974 but this proved to be short lived with private transport returning to an annual rate comparable with the average annual rate of the early seventies. Public road transport has grown steadily throughout the seventies as is shown in Tables C and D.

11. Rail passenger transport in the ECMT region as a whole remained relatively static after 1974 having increased by 10% over the previous 4 years. Much of this growth was accounted for by increased traffic on French and Italian railways. Table 3 excludes these countries and it can be seen that in the 11 member countries represented there rail passenger traffic increased between 1970 and 1974 to a considerably lesser extent than in the ECMT region as a whole and has since returned to levels only slightly above that of 1970.

Car Ownership

12. Registered private cars in 14 member countries numbered over 89 million in 1977 more than double the number registered in 1965. This represents an average annual growth rate of 6.5%. The annual growth rate has been slowly decreasing, from 8.5% on average between 1965 and 1970, 5.4% between 1970 and 1976 and in 1977 the number of registered vehicles was 4% higher than in 1976.

13. Ownership rates have increased to over 30 vehicles per 100 population in several member countries with most other countries not far below this rate. (Table F).

Infrastructure

14. There was little overall change in the length of the rail networks of the ECMT countries 1976 and 1977, small extensions in some countries compensating for reductions elsewhere.

15. Electrification was extended by a further 1126 route kilometres (in 15 member countries).

16. The E-route road network was extended by 25 kilometres in Germany during 1977 and no changes were reported elsewhere.

Investment in Transport Equipment and Infrastructure 1970 - 1976

17. The levels of investment on transport equipment and infrastructure during the period 1970-1976 varied considerably from year to year and from country to country, but in 12 countries taken together the broad trends indicate that railway investment has kept in step with GDP growth while roads and road transport investment (accounting for some 80-85% of investment in transport equipment and infrastructure) has fallen against GDP despite a 73% increase over the period in current price terms.

18. Inland waterway investment was relatively high at the beginning of the seventies but investment levels have not risen since then and in real terms have fallen substantially compared with GDP.

19. In 1976, contrary to the trends, investment in road transport saw a small upturn while rail investment fell slightly in real terms.

A TRANSPORT TRENDS : 1977

Percentage increase from 1976

| | RAIL | | ROAD | | | INLAND WATERWAY | PIPELINE |
|--------------------------|----------|--------------|----------|---------------------|---------------------|-----------------|----------|
| | Tonne km | Passenger km | Tonne km | Passenger-km Public | Private | Tonne km | Tonne km |
| Germany | - 6.0 | φ | 3.3 | 2.4 | 2.7 | 7.5 | - 9.9 |
| Austria | | | | | | | |
| Belgium | - 2.5 | - 3.0 | - 0.7 | - 1.4 | 4.8 | - 5.1 | 15.2 |
| Denmark | - 5.5 | 8.9 | | | - 2.8 | | |
| Spain | 6.0 | 2.5 | 3.9 | 9.6 | 5.4 | | 6.9 |
| Finland | - 2.3 | φ | φ | 2.6 | 1.1 | 3.3 | |
| France | - 3.4 | 1.6 | 1.9 | | | - 7.3 | 8.4 |
| United Kingdom | - 1.3 | 2.8 | 2.5 | φ | 2.8 | φ | 57.0 |
| Greece | 1.3 | 2.7 | | | | | |
| Ireland | 0.2 | 10.7 | | - 4.1 | | | |
| Italy | 4.4 | - 1.9 | 12.0 | 13.0 | 3.8 | | |
| Luxembourg | - 9.8 | φ | 14.0 | | | | |
| Norway | - 5.1 | φ | 8.0 | | | | |
| Netherlands | 3.9 | - 2.5 | - 1.0 | 0.9 | 1.6 | 3.8 | 6.8 |
| Portugal | 4.8 | 0.1 | | | 11.8 ⁽¹⁾ | | |
| Sweden | - 9.0 | - 1.0 | - 3.4 | | | | |
| Switzerland | - 1.1 | - 1.4 | 4.5 | 5.0 ⁽¹⁾ | 3.8 ⁽¹⁾ | - 1.3 | - 11.8 |
| Turkey | | | | | | | |
| Yugoslavia | 5.1 | 5.0 | 11.9 | φ | 11.9 | 4.0 | 11.2 |

(1) Estimate
 Ireland : Passengers carried (thousands)
 1976 : 299 145
 1977 : 287 013

φ less than 0,05 %

Table B FREIGHT TRANSPORT TRENDS IN 10 COUNTRIES*

a) 1970 Tonne - Kilometre = 100

| MODE | 1970 | 1975 | 1976 | 1977 |
|---------------------------|------|------|------|------|
| Rail | 100 | 86 | 91 | 88 |
| Road | 100 | 124 | 131 | 134 |
| Inland Waterway | 100 | 94 | 95 | 98 |
| Pipeline | 100 | 111 | 124 | 133 |

b) Percentage

| | | | | |
|---------------------------|----|----|----|----|
| Rail | 31 | 25 | 24 | 24 |
| Road | 47 | 55 | 55 | 55 |
| Inland Waterway | 14 | 12 | 12 | 12 |
| Pipeline | 8 | 8 | 9 | 9 |

* B, DK, F, D, NL, N, E, S, CH, GB.

Table C INTERNATIONAL FREIGHT TRANSPORT TRENDS IN 10 COUNTRIES*

a) 1970 Tonnes = 100

| MODE | 1970 | 1975 | 1976 | 1977 |
|---------------------------|------|------|------|------|
| Rail | 100 | 86 | 92 | 87 |
| Road | 100 | 157 | 180 | 192 |
| Inland Waterway | 100 | 107 | 112 | 115 |

b) Percentage

| | | | | |
|---------------------------|----|----|----|----|
| Rail | 31 | 24 | 23 | 22 |
| Road | 22 | 31 | 33 | 34 |
| Inland Waterway | 47 | 45 | 44 | 44 |

* B, F, D, SF, NL, L, E, I, GB, YU.

D PASSENGER TRANSPORT : BY MODE
Million Passenger-Kilometers

| | ROAD : PRIVATE (1) | | | ROAD : PUBLIC (2) | | | RAIL | | |
|--------------------------|--------------------|------------|-------------|-------------------|-----------|-----------|--------|--------|--------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 268 600 | 352 300 | 430 900 | 52 400 | 60 100 | 71 100 | 38 419 | 37 314 | 37 348 |
| Austria | | | | | | | 6 439 | 6 251 | 6 570 |
| Belgium | 25 680 | 39 713 | 58 146 | 3 245 | 2 965 | 3 093 | 8 008 | 7 567 | 7 346 |
| Denmark | 28 000 | 33 000 | 40 800 | 3 400 | 4 600 | | 3 200 | 3 500 | 3 100 |
| Spain | 27 737 | 64 347 | 112 610 | 11 220 | 20 910 | 33 100 | 13 906 | 14 992 | 18 643 |
| Finland | 17 250 | 24 600 | 32 000 | 5 800 | 7 000 | 7 900 | 2 050 | 2 156 | 2 977 |
| France | | | | | | | 38 300 | 41 000 | 52 300 |
| United Kingdom | 231 000 | 309 000 | 370 000 | 63 000 | 56 000 | 53 000 | 30 116 | 30 408 | 29 290 |
| Greece | | | | | | | 1 131 | 1 531 | 1 625 |
| Ireland | | | | | | | 542 | 754 | 873 |
| Italy | 108 814 | 234 442 | 325 800 | 27 871 | 32 004 | 54 600 | 26 502 | 32 457 | 38 362 |
| Luxemburg | | | | | | | 185 | 105 | 240 |
| Norway | 7 300 | 11 200 | 31 600 | 3 300 | 3 700 | | 1 712 | 1 569 | 2 004 |
| Netherlands | 49 600 (a) | 85 300 (a) | 106 700 (a) | 11 000 | 10 700 | 11 500 | 7 715 | 8 010 | 8 013 |
| Portugal | 9 252 | 17 470 | 35 998 | 3 729 | 4 358 | | 2 970 | 3 546 | 5 235 |
| Sweden | | | | | | | 5 290 | 4 559 | 5 563 |
| Switzerland | 34 520 | 50 707 | 65 839 (a) | 2 600 | 3 200 | | 7 859 | 8 168 | 8 028 |
| Turkey | | | | | | | | | |
| Yougoslavia | 6 648 a) | 16 605 a) | 47 213 a) | 5 696 b) | 13 305 b) | 27 706 b) | 12 800 | 10 939 | 10 459 |

(1) Cars & Motorcycles.

(2) Buses.

Denmark : Preliminary figures for the financial year 1977/78.

Netherland : (a) Excl. Bicycles.

Switzerland : (a) Approximate.

Yugoslavia : (a) Passenger Cars.

(b) Excluding urban transport.

Table E PASSENGER TRANSPORT TRENDS IN 11 COUNTRIES*

1970 Passenger-kilometres = 100

| | 1970 | 1975 | 1976 | 1977 |
|------------------------|------|------|------|------|
| Private Road | 100 | 124 | 129 | 134 |
| Public Road | 100 | 115 | 119 | 123 |
| Rail | 100 | 103 | 102 | 103 |

* B, DK, SF, D, GR, NL, N, E, CH, GB, YU.

Table F CAR OWNERSHIP IN 14 COUNTRIES*
NUMBER AND PER 100 POPULATION

| | 1965 | 1970 | 1976 | 1977 |
|----------------------------------|------|------|------|------|
| Registered cars millions | 41,7 | 62,4 | 85,8 | 89,1 |
| 1965 = 100 | 100 | 150 | 206 | 214 |
| Per 100 population | 14 | 20 | 27 | 28 |

* D, B, DK, E, SF, F, U.K, IRL, I, L, N, NL, S, CH.

CHAPTER II

RAILWAYS

FOREWORD

- 1.** The report is based on data from Member countries for 1977, and includes some comparative figures for 1965, 1970 - 1977.
- 2.** Except where otherwise indicated, figures relate to the 19 Member countries, while those within brackets relate to the countries in the EEC only (at the dates to which the report refers).
- 3.** The tables list the ECMT Member countries in English alphabetical order. Member countries belonging to the European Communities (as at 31 st December, 1977) are marked with an asterisk (*) and part-totals for them are shown in brackets in the text.

1. PASSENGER TRAFFIC

Table 1(a) shows the trend of passenger traffic for the years 1965 and 1970 - 1977 in ECMT Member countries.

The number of passengers carried in 1977 remained about the same as in the previous year (1976) but fell by 4 per cent (1.77 per cent) as compared with 1965.

The figures for passenger-km are shown in Table 1 (b). They cover the same period of reference. Compared with 197,505 (149,787) million passenger-km for 1965, the figure for 1977 was 231,405 (176,871) million, an increase of 17.2 per cent (18.1 per cent).

The average length of journey for the years 1965, 1970 and 1977 is shown in Table 4. Here again, there is an average increase of 19.1 per cent (20.9 per cent).

2. FREIGHT TRAFFIC

For most ECMT Member countries, freight traffic in terms of tonnes carried fell by about 23 per cent (42.2 per cent) in 1977 as compared with 1965 (Table 2 (a)). The trend for the intervening years alternately rose and fell. In the case of Spain, Finland, Greece, Italy, Ireland, Norway, Portugal, Switzerland and Yugoslavia, the figures for 1965 and 1977 remained constant or increased only slightly. The trend in the United Kingdom is surprising: transport output fell during the period under review almost constantly from 232 million tonnes in 1965 to 178 million tonnes in 1977 (- 27 per cent).

A similar tendency can be traced in the comparative figures for tonne-kilometres (Table 2 (b)). Here, Spain, Finland, France, Greece, Ireland, Italy, Norway, Portugal, Sweden, Switzerland and Yugoslavia show a rising trend in 1977 by comparison with 1965 but the figures for 1977 are in some cases 3-4 per cent lower than in 1976. The figures for 1974 are nearly all peak figures.

3. INTERNATIONAL FREIGHT TRAFFIC BY RAIL

The figures for international traffic by rail are shown in Table 3. Small increases are recorded for nearly all countries, except for Finland, with an increase of 122 per cent, Greece (over 600 per cent), Portugal (roughly 59 per cent) and Yugoslavia (roughly 110 per cent). In other Member countries, the figures rose alternately from year to year. Here again, 1974 was a peak year.

4. AVERAGE LENGTH OF JOURNEY OR HAUL PER PASSENGER OR PER TONNE

Table 4 gives specific figures for passenger transport output (average length of journey per passenger (km)) and freight transport output (average length of haul per tonne (km)). The trend is generally upwards.

5. LENGTH OF RAILWAY NETWORK (Table 5 (a))

a) Total network

The total length of the Member countries' networks fell from 181,068 km in 1965 to 165,126 km in 1977 (i.e. by 15,942 km or 8.8 per cent). In the EEC countries, the decrease during that period was 11,437 km (- 9.6 per cent). This trend is due to the closure of unremunerative lines.

b) Electrified network

The total length of electrified lines in ECMT Member countries is 97,542 km (35,552 km).

If we add to this the figures (which were not communicated) for Austria, 2,800 km and Turkey 250 km the total length of electrified lines rises to 60,592 km (35,552 km), i.e. 34 per cent (33 per cent) of the total network (Table 5 (a)), provided that account is also taken of the other missing figures for Austria - 5,400 km, and Turkey 8,130 km.

6. RAILWAY OPERATIONS

The figures for train-kilometres are shown in Table 6. The comparative totals for 1965 and 1977, both for ECMT Member countries and for EEC countries show a practically constant trend apart from some small fluctuations of a few per cent up or down during the intervening years. Belgium, France, Italy, the Netherlands and Switzerland showed a constant increase from 1965 to 1977.

7. ROLLING STOCK, 1977

The composition of the ECMT Member countries' rolling stock is shown in Table 7.

As about half the Member countries provided only incomplete data or none at all, any comment must inevitably be off the mark.

8. ENERGY CONSUMPTION FOR TRACTION

Table 8 (a) gives particulars concerning total energy consumption (electrical energy and diesel fuel) for traction (in terms of coal equivalent) for the year 1970 and for the years 1975 - 1977. The average 15-20 per cent drop in consumption over the 7 years is essentially due to the traffic decline and to more efficient traction conditions (introduction of more thrifty forms of traction).

Table 8 (b) shows total energy consumption with separate figures for electrical energy and diesel fuel. It also indicates the relatively small proportion of the Member countries' total energy consumption accounted for by the railways.

Here again, no comments can be made as most of the data required are lacking.

CHAPTER III

ROADS

9. ROAD PASSENGER TRANSPORT ON NATIONAL TERRITORY

Transport by two-wheeled vehicles appears to be increasing more rapidly than in the past. In 1977 it accounted for 52.2 million passenger-Km compared with 48.7 in 1976 and 39.1 in 1965 (Table 9a, 7 countries). The increase on 1976 is 7.2 per cent, while the increase since 1965 is 34 per cent, representing an average increase of only 2.4 per cent a year.

For transport by private cars and taxis the tendency is to some extent the opposite: it is admittedly continuing to increase, but at an increasingly slow rate. The rise from 1976 to 1977 was 3.3 per cent, whereas from 1974 to 1977 it was 3.9 per cent annually and the average rate of increase since 1965 has been 6.6 per cent a year. (Table 9b)

For public transport vehicles (coaches, buses, trolleybuses), the annual rate of increase appears to be rising, as it is for two-wheeled vehicles. From 1976 to 1977 it was 7.1 per cent, whereas from 1975 to 1976 it was 6.0 per cent, and the average rate of increase since 1965 had been 4.6 per cent a year. In the United Kingdom, there has been a slowly, but steady decline averaging 1.5 % a year. (Table 9 c).

10. ROAD TRANSPORT OF GOODS

Road transport of goods, expressed in tonnes (Table 10 a) declined by 1.2 per cent in 1977, whereas from to 1976 it had risen by 1.2 per cent. Over the whole of the period under review (1965 to 1977) it may be said to have remained fairly constant, with slight rises and falls and a slight general upward tendency: from 1965 to 1977 the average rate of increase was 1.6 per cent a year.

On the other hand, goods transport expressed in tonne-Km (Table 10 b) has shown a faster and quite sustained expansion: 4.2 per cent from 1976 to 1977 compared with 5.2 per cent from 1975 to 1976, the average rate of increase from 1965 to 1977 being 5.7 per cent a year.

The fact that the rate of increase in terms of tonne-Km is higher than that of tonnes carried shows of course that journey lengths are increasing.

The breakdown by type of undertaking in Table 10 c shows that transport for hire or reward accounts for the greater part of goods transport in tonne-Km, and this proportion is rising:

| | |
|------|-----------------|
| 1965 | : 61.5 per cent |
| 1970 | : 62.7 per cent |
| 1977 | : 64.3 per cent |

The annual rate of increase of transport for hire or reward is also greater than that of transport for own account, although both are declining:

| Period | Hire or reward | Own account |
|-------------|-----------------------|-----------------------|
| 1970 - 1977 | 3.8 per cent per year | 2.9 per cent per year |
| 1965 - 1970 | 5.6 | 4.9 |

11. INTERNATIONAL ROAD TRANSPORT OF GOODS

International road transport of goods, expressed in tonnes loaded and unloaded (Table 11), is growing appreciably in all countries. The rates of increase are as follows:

| | |
|---------------------|--------------------------------------|
| Period 1976 - 1977: | + 6.1 per cent (8 countries) |
| 1976 - 1976: | + 15.2 per cent (16 countries) |
| 1970 - 1976: | + 10.1 per cent a year (8 countries) |

12. VEHICLE-KM ON NATIONAL TERRITORY

a) Two-wheeled motor vehicles (Table 12a)

Interest in the use of two-wheeled vehicles would appear to be recovering, as it has increased by 5.8 per cent after a period of decline, with a low point between 1970 and 1975 depending on the country. From 1965 to 1970 the use of two-wheeled vehicles has been falling by 4.3 per cent a year.

b) Private cars and taxis (Table 12b)

After a decline of the order of 2 per cent in 1974 (though not in every country) the volume has again begun to increase:

- + 5.5 per cent between 1974 and 1975
- + 3.4 per cent between 1975 and 1976
- + 5.3 per cent between 1976 and 1977

The rate of increase, however, has declined considerably compared with that for the period prior to 1973: between 1965 and 1973 it averaged 9.4 per cent per year.

Buses, coaches, trolleybuses (Table 12 c)

The trend for public transport vehicles is somewhat the opposite, the rate of increase having reached 4.1 per cent in 1977, whereas over the whole period 1965-1976 it had remained remarkably stable around an average figure of 2.3 per cent a year.

Goods vehicles (Table 12 d)

Transport of goods appears to have resumed a normal growth rate, having increased by 3.1 per cent in 1977, whereas over the years 1974 to 1975 and 1976 it was below 0.5 per cent a year. The rate of increase has thus broadly recovered the pre-crisis level, which was 3.3 per cent a year between 1970 and 1973 and 3.4 per cent a year between 1965 and 1970.

13. PASSENGER VEHICLES

Table 13 shows the trend in the number of vehicles, by type of vehicle, in 1965, 1970 and 1977. The table below shows the average annual rate of increase in the number of vehicles for each of the periods 1965 - 1970 and 1970-1977:

| | 1965-1970 | 1970-1977 |
|-----------------------------|-----------|----------------|
| 2-wheeled vehicles : | - 2.0 | + 2.6 % a year |
| Private cars and taxis : | + 9.1 | + 5.1 |
| Public transport vehicles : | + 4.2 | + 3.3 |

The number of vehicles is thus continuing to increase though the trend varies with the type of vehicle.

In particular, the number of two-wheeled vehicles, while it is rising and is above the 1965 level overall, is not so in all countries. In some countries the number is below that for 1965 (GB, NL) or is even declining (SF, IRL, L, N, S).

For private cars, as for public transport vehicles, the number has never ceased to increase, but it now doing so at a less rapid rate.

14. GOODS VEHICLES (Table 14 a and b)

a) So far as the number of vehicles is concerned, the overall trend in the same countries for each of the two periods considered has been as follows:

| | 1966-1970 | 1970-1977 |
|--------------------------------------|-----------|-------------------------------|
| Lorries of less than 1.5 t payload : | + 6.1 | + 2.5 % a year (8 countries) |
| Lorries of more than 1.5 t payload : | + 2.3 | + 2.8 % a year (8 countries) |
| Trailers and semi-trailers : | + 5.7 | + 7.3 % a year (10 countries) |
| Road tractors : | + 9.3 | + 9.3 % a year (7 pays) |

These figures confirm the trends already observed in the past: a more rapid rate of increase for heavy vehicles and even an acceleration of the rate of growth, while for small vehicles the rate is tending to fall.

The increase in the number of road tractors (9.3 per cent a year) is especially remarkable, although in some countries (S and CH) these vehicles were fewer in number in 1977 than in 1970.

So far as the capacity of vehicles is concerned, the overall trend, still based on the same countries for the two periods, was as follows:

| | 1965-1970 | 1970-1977 |
|------------------------------|-----------|------------------------------|
| Lorries of less than 1.5 t : | + 6.8 | + 6.6 % a year (5 countries) |
| Lorries of more than 1.5 t : | + 5.7 | + 4.2 (5 countries) |
| Trailers and semi-trailers : | + 6.6 | + 5.6 (5 countries) |

Here, too, there is a slowdown in the annual rate of increase, but the figures are not comparable to those in the table in (a) above, the countries not being the same.

If we confine ourselves to the period 1970 - 1977, the comparative trend of the number of vehicles and their capacity is reflected in the following table, which gives the annual average rate of increase between 1970 and 1977 in the number of vehicles in each category and their capacity respectively:

| | Number | Capacity |
|------------------------------|---------|------------------------|
| Below 1.5 t : | + 4.8 % | + 4.7 % (10 countries) |
| Above 1.5 t : | + 3.1 | + 4.1 (8 countries) |
| Trailers and semi-trailers : | + 6.4 | + 5.8 (6 countries) |

Finally, still for the period 1970 - 1977, the composition of the vehicle population has moved as follows (for six countries):

| CATEGORY | 1970 | | | 1977 | | |
|----------------------------|----------|------------|----------------------|----------|------------|----------------------|
| | NUMBER % | CAPACITY % | AVERAGE CAPACITY (t) | NUMBER % | CAPACITY % | AVERAGE CAPACITY (t) |
| Below 1.5 t | 37.7 | 8.3 | 0.687 | 39.5 | 9.2 | 0.728 |
| Above 1.5 t | 39.5 | 52.1 | 4.125 | 33.9 | 47.7 | 4.405 |
| Trailers and semi-trailers | 18.6 | 39.6 | 6.663 | 21.2 | 43.1 | 6.385 |
| Tractors | 4.2 | — | — | 5.4 | — | — |
| | 100 | 100 | 3.126 | 100 | 100 | 3.134 |

15. FUEL CONSUMPTION

Table 15 shows consumption of fuel by road vehicles in millions of tonnes.

The trend in the annual rate of increase in consumption is shown by the following table:

| | 65-70 | 70-75 | 75-76 | 76-77 |
|--------------|----------------|----------------|---------|---------|
| 8 countries | + 8,4 % a year | + 5,3 % a year | + 5,8 % | + 5,4 % |
| 14 countries | — | + 4,5 % a year | + 5,4 % | + 4,9 % |

In the last two years the annual rate of increase in consumption has thus declined considerably compared with the period 1965 - 1970 but not in comparison with the period 1970 - 1975, and since 1975 it has been falling only slowly.

In 1977 diesel fuel accounted for 30.6 per cent of total consumption (14 countries).

16. LENGTH OF ROAD NETWORK (Table 16)

The figures in Table 16 show that the length of the road network has increased considerably in every country, and not only because of motorway construction.

The figures being compiled on different bases, no total has been shown except for motorways, the length of which has risen by 80 per cent since 1970, representing an increase of more than 10,000 km (12 countries).

17. LENGTH OF INTERNATIONAL ROAD NETWORK (E routes)

Table 17 has in part been reconstructed from data given for previous reports. The years 1965 - 1970 and 1975 are thus complete. From this it may be concluded that the length of the E network is approximately 62,000 km for all 15 ECMT countries. In 1965 and 1970, Finland and Ireland were not members of the ECMT. If they are left out of account, the international network increased by 3,620 km between 1965 and 1970, and 7,247 km between 1970 and 1975.

The last-mentioned figure, however, is strongly influenced by the fact that some countries have fundamentally changed the structure of their network (France in particular which has added 2,396 km). In the majority of the other countries, the length of the network usually changes only slightly.

CHAPTER IV
WATERWAYS PIPELINES and SEAPORTS

18. TRANSPORT TRENDS

All countries under review

The trend in tonnages carried by inland waterways in six countries - Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland - is shown below.

TONNES CARRIED

Unit : 1,000 tonnes

| YEAR | INTERNAL TRAFFIC | INTERNATIONAL TRAFFIC | TOTAL |
|-----------|------------------|-----------------------|-------|
| 1965..... | 264.5 | 127.5 | 392.0 |
| 1970..... | 293.5 | 174.4 | 467.9 |
| 1971..... | 294.0 | 171.4 | 465.4 |
| 1972..... | 292.7 | 172.5 | 465.2 |
| 1973..... | 279.2 | 193.3 | 472.5 |
| 1974..... | 265.1 | 208.4 | 473.5 |
| 1975..... | 229.7 | 168.2 | 415.9 |
| 1976..... | 252.5 | 195.5 | 448.0 |
| 1977..... | 249.3 | 200.9 | 450.2 |

These figures show that a distinct drop in total traffic in 1975 (by roughly 12 per cent) was followed by a gradual upturn in 1976, but this improvement was not maintained in 1977 when the market wavered and when the total figure very little exceeded that for 1976, which means that it was lower than in the early seventies.

It must be pointed out, however, that internal traffic and international traffic followed different trends. The latter was almost back to the level attained before the decline and the figure for 1977 was some 9 per cent higher than the average for the years 1970 - 1974. Internal traffic, on the other hand, remained about 12 per cent below. The year 1977 was no exception to the long perceivable rising trend of international traffic; in that year, it accounted for 45 per cent of total traffic as compared with only 33 per cent in 1965.

The improvement in transport output continued in 1977 in the six countries mentioned with an increase of about 3 per cent to 98,900 million ton/km, which is only 1 per cent below the average for the years 1970 - 1974. The average length of haul, at 219 km, showed an increase.

The trend in transport output is similar for the six countries mentioned as a whole, and for Finland, the United Kingdom and Yugoslavia.

The 1977 total was 0.6 per cent higher than the average for 1970 - 1974.

Remarks on traffic trends in various countries

In the Federal Republic of Germany, 232.5 million tonnes of freight were carried on the waterways in 1977, i.e. an increase of 1.1 per cent. The improvement which began in 1976 was thus sustained, but the present figure still remains about 4 per cent under the average for the years 1970 - 1974.

Internal traffic fell by 4 per cent but international traffic rose by 1 per cent. Traffic in transit accounted for the sharpest increase (4 million tonnes, i.e. 41 per cent).

Building materials, which account for a third of total traffic, scarcely increased at all but coal carryings on the waterways rose by 7 per cent even though the total tonnage of coal carried by all modes declined. A similar situation applied to transport of iron and steel: an increase of 12.5 per cent for the inland waterways and a 2.5 per cent drop for all modes combined. There was also a similar trend for oil products. On the other hand, « chemicals » and « Vehicles and machinery » showed a distinct fall, i.e. 2.5 per cent and 6.5 per cent respectively.

The growth of international traffic is especially due to transfrontier traffic on the Moselle, this having increased by 1.1 million tonnes (12.2 per cent). Taken as a whole, international traffic with Austria and East European countries along the Danube declined: inbound shipments to Germany rose by 0.20 million tonnes (+ 18 per cent) but outbound shipments fell by 0.45 million tonnes (– 30 per cent).

The first set of figures for 1978 show a distinct growth in waterway traffic: the increase for the first half of 1978 as compared with the corresponding period 1977 is over 7 per cent.

In Belgium, total waterway traffic amounted to 101 million tonnes in 1977, slightly more than the 100.3 million tonnes for 1976. There was a slight fall in internal and transit traffic but international traffic rose by 2 per cent.

Total traffic in 1977 was nearly 3 per cent over the average for 1970 - 1974.

In France, total traffic, at 91.2 million tonnes, fell by nearly 3 per cent. Internal traffic accounted for the biggest drop (3.5 million tonnes or 6.5 per cent). International traffic fell, in all, by 1 per cent. Outbound traffic from France fell by 4.3 per cent whilst inbound traffic rose by 5.3 per cent. Transit traffic also rose and the increase was substantial (+ 1.1 million tonnes, or roughly 15 per cent).

In practical terms, these figures mean that total traffic was about 16 per cent below the average for 1970 - 1974. The falling trend which began in 1975 thus continued.

The share of total traffic accounted for by internal traffic also continued its decline and was down to 55 per cent as compared with 61 per cent in 1970.

The first half of 1977 was plainly less satisfactory than the first half of 1976 but the second half of 1977 was somewhat better than the corresponding period of 1976.

The broad categories of goods which traditionally account for the main bulk of inland waterway traffic are listed below together with the fluctuations – mostly downward – as compared with 1976:

| | |
|---|----------|
| – Oil | – 1.4 % |
| – Minerals and building materials | – 9.6 % |
| – Agricultural products | – 23.0 % |
| – Oil products | – 1.1 % |
| – Solid fuels | |
| – Foods and feedingstuffs | – 2.0 % |

The first of the appreciable declines shown above is due to the widespread recession in the building industry. The lower figure for agricultural products mostly reflects the very sharp decline in exports. There are however two cheering features: the distinct increase in carryings of solid fuels and the slight improvement for carryings of food and feedingstuffs.

In the Netherlands, the trend was markedly different from that recorded in other countries. Total waterway traffic in 1977 rose by 4.8 per cent to a record 272.7 million tonnes. Internal traffic rose by 4.1 per cent and international traffic by 3.2 per cent. Traffic in transit showed the most spectacular increase : 14.2 per cent. Thus – despite a 1.1 per cent fall in exports – total traffic in 1977 was more than 9 per cent over the average for 1970 - 1974.

In Switzerland too, the trend in 1977 was positive. Total traffic increased by 8.4 per cent. International traffic exceeded the 1970 - 1974 average by nearly 5 per cent.

In Luxembourg, international traffic in 1977 was well below its 1976 level. Exports did increase by 0.1 million tonnes (0.5 per cent) but imports fell by nearly half to 0.5 million tonnes.

In the United Kingdom, internal traffic on the waterways in 1977 fell by 13 per cent to 4 million tonnes and thus ended the upturn which began in 1976. The 1977 figure was 23 per cent below the average for 1970 - 1974.

Finland gave figures for internal traffic, including coastwise traffic, in tonne/Km. Between 1965 and 1970, the increase was about 7 per cent a year. The peak year was 1974, with 105,000 million tonne/Km. The figure for 1977 was 98,900 million tonne/Km, 3.6 per cent more than in 1976 and 0.8 per cent above the average for 1970-1974.

In Yugoslavia, the total volume of inland waterways transport continued to increase in 1977, reaching a total of average for the period 1970 - 1974.

Rhine Traffic

The total tonnage carried on the Rhine across the Germany-Netherlands frontier, increased sharply in 1977, rising 6.5 per cent to 127.4 million tonnes, and practically equal to the 1974 record of 127.9 million tonnes.

The following is a short list of the main categories of freight shipped via the Rhine in 1977 together with the record 1974 figures for purposes of comparison.

| percentages | | |
|-----------------------------------|-------|-------|
| UPSTREAM | 1974 | 1977 |
| Coal | 4 | 4 |
| Ore | 42 | 32 |
| Liquid fuel | 19 | 27 |
| Grain | 3 | 4 |
| Foodstuffs | 4 | 4 |
| Miscellaneous | 28 | 29 |
| Total | 100 % | 100 % |
| DOWNSTREAM | | |
| Coal | 16 | 14 |
| Building material | 39 | 48 |
| Iron and steel products | 21 | 15 |
| Fertilizers | 5 | 4 |
| Salt | 1 | 1 |
| Miscellaneous | 18 | 18 |
| Total | 100 % | 100 % |

The volume of traffic in the two years was practically the same, but the cargo breakdown differed. As regards upstream traffic relatively more ore and less liquid fuel was carried in 1974 than in 1977 and in the downstream direction, the proportion of iron and steel products was much smaller in 1977 than it was in 1974.

19. DEVELOPMENT OF THE FLEET

All countries under review

The total fleet of five Member countries – the Federal Republic of Germany, Belgium, France, the Netherlands and Switzerland – changed in the following ways between 1970 and 1976.

| END OF THE YEAR | SELF-PROPELLED CRAFT | | DUMB BARGES | | TOTAL FLEET | |
|--------------------|----------------------|------------|-------------|------------|-------------|------------|
| | NUMBER | CAPACITY * | NUMBER | CAPACITY * | NUMBER | CAPACITY * |
| 1965 | 26 517 | | 8 740 | 5 511.7 | 35 257 | |
| 1970 | 23 756 | 11 447.3 | 4 797 | 4 033.0 | 28 535 | 15 480.3 |
| 1971 | 22 951 | 11 582.0 | 4 494 | 4 052.4 | 27 445 | 15 635.4 |
| 1972 | 22 175 | 11 649.4 | 4 414 | 4 139.7 | 26 589 | 15 789.1 |
| 1973 | 21 689 | 11 747.5 | 4 272 | 4 027.5 | 15 961 | 15 775.0 |
| 1974 | 10 839 | 11 581.0 | 3 916 | 3 803.3 | 24 755 | 15 385.3 |
| 1975 | 20 029 | 11 411.7 | 3 799 | 3 800.7 | 23 828 | 15 212.4 |
| 1976 | 18 896 | 11 076.9 | 3 588 | 3 718.8 | 22 484 | 14 795.7 |
| 1977 | 17 872 | 10 705.3 | 3 356 | 3 537.3 | 21 228 | 14 242.6 |

* Thousand tonnes.

Mainly as a result of measures taken for scrapping of craft in a number of West European countries, there was a distinct increase in average capacity, the total fleet of the five above-mentioned countries again decreased in 1977, by 1,256 units to 21,228. The corresponding fall in carrying capacity was 553,100 tonnes (3.7 per cent), an appreciably bigger drop than in previous years which brought the 1977 figure nearly 9 per cent below average capacity for the years 1970 - 1974. The decline in capacity coincided with an increased flow of traffic. Average capacity per unit rose by 13 tonnes (2 per cent) from 658 tonnes in 1976 to 671 tonnes in 1977.

The number of craft fell in all three categories mentioned: self-propelled craft by 1,024 to 17,872 (- 5.4 per cent); total capacity fell by 3.7 million tonnes, a smaller percentage difference (3.4 per cent).

The number of dumb barges (pull-towed and push-towed) fell by 232 to 3,356 (- 6.5 per cent); total capacity fell by 1.8 million tonnes to 3.5 million tonnes (- 4.9 per cent).

Despite a decrease of 16 units in 1977, the number of tugs and pusher craft was still higher than in 1970.

Remarks on the development of the fleet in various countries

In the Federal Republic of Germany, the waterway fleet again lost 181 units in 1977, and this brought it down to 4,432. Its carrying capacity, at 4 million tonnes, was 3.9 per cent less than the year before and 9.8 per cent below the average for 1970 - 1974.

As in 1976, self-propelled craft accounted for 76 per cent of total tonnage. A further increase in average capacity per craft brought it up to 907 tonnes.

On balance, the fleet lost 115,100 tonnes in 1977. Scrapping measures accounted for 205,800 tonnes.

In Belgium, the fleet fell by 283 units, leaving 3,574 in all. Total capacity accordingly dropped by 133,100 tonnes (6.1 per cent) to 2.1 million tonnes or 17.6 per cent less than the average for 1970 - 1974.

The total capacity of the fleet has been falling since 1966 and over the years has decreased by nearly 30 per cent. As a counter effect, average capacity per craft is rising steadily and was at 577 tonnes in 1977.

In France too, the declining trend of waterway fleet capacity continued in 1977 when it dropped by 95,800 tonnes (3.4 per cent). Remaining capacity - 2,706,800 tonnes - is 9.4 per cent below the average for 1970 - 1974. Average capacity per craft rose to 465 tonnes, i.e. 5 tonnes more than in 1976.

In the Netherlands, the waterway fleet in 1977 lost 487 units amounting to a capacity of 182,000 tonnes. Total capacity thus fell to 4.9 million tonnes, 3.9 per cent less than the average for 1970-1974. There was a distinct increase in average capacity per craft from 679 tonnes in 1976 to 700 tonnes. Dumb barges (pulled-towed and push-towed) showed the biggest increase, their average capacity rising from 1,242 to 1,287 tonnes. Average capacity of self-propelled craft rose by 23 tonnes to 606 tonnes.

Scrapping of craft decided by the authorities eliminated 887 units amounting to a capacity of 426,500 tonnes in 1977.

In Switzerland the fleet in 1977 lost 24 units amounting to a capacity of 27,200 tonnes. The total capacity of the 376 remaining units was 530,400 tonnes, 5.6 per cent below the average for 1970 - 1974.

Average capacity per craft rose to 1,411 tonnes, an increase of 17 tonnes. The increase for dumb barges (pull-towed and push-towed) was 14 tonnes, which brought their average to 1,722 tonnes, and 27 tonnes for self-propelled craft, which brought their average to 1,318 tonnes. Switzerland has the highest average capacity per craft of all the ECMT countries under review.

In Yugoslavia, the fleet increased in 1977 by another 32 units with a total capacity of 17,000 tonnes. Average capacity per barge rose from 483 tonnes in 1976 to 531 tonnes in 1977

20. DEVELOPMENTS IN PIPELINE TRANSPORT (Table 20)

The Total length of pipeline networks in 1977 remained unchanged in the Federal Republic of Germany, Belgium, Spain, France, the Netherlands, Switzerland and Yugoslavia. The only increase was in the United Kingdom, where an additional 162 km. brought it to 2,827 km. The total length of the network in all these countries combined thus rose to 12,439 km.

Transport output fell by 2.1 per cent in 1977. It amounted to 65,908 tonne-km, which is still 4.0 per cent above the average for 1970 - 1974.

The total length of the network in 1977 was 19.1 per cent over the average for 1970 - 1974. By comparison, transport output has risen distinctly less.

Developments in individual countries

In the Federal Republic of Germany, transport output fell by 9.9 per cent to 14,500 million tonne-km. This is over 19 per cent above the average for 1970 - 1974.

In France, pipeline transport fell by 8.6 per cent to 32,300 million tonne-km, 1.6 per cent less than average for 1970 - 1974.

In Spain, the fall was 6.9 per cent. But, at 2,500 million tonne-km, transport output still remains one and a half times better than the average for 1970 - 1974.

In Switzerland, pipeline transport fell by 11.8 per cent to 1,200 million tonne-km. This is exactly the average for 1970 - 1974.

In the United Kingdom, the increase in 1977 was spectacular. At 8,100 million tonne/km, transport output was 57.1 per cent higher than in 1976 and 2.3 times above the average for 1970 - 1974. These figures are the first very clear token of the effects of North Sea oil production.

In Belgium, there was also an increase, but to a lesser degree: 15.2 per cent more than in 1976 and a total output of 1,800 million tonne/km which was 58 per cent more than the average for 1970 - 1974. This improvement is partly due to pipeline transport from Rotterdam to Antwerp.

In the Netherlands, transport again increased, exceeding the 1976 figure by 9.8 per cent and rising to 5,300 million tonne/km or 7.9 per cent more than the average for 1970 - 1974.

In Yugoslavia, transport output rose by a further 12 per cent.

21. TRAFFIC TRENDS AT MAIN SEAPORTS (Tables 21 and 21 bis)

Total traffic (loaded and unloaded) in the main seaports of the countries under review fell by 2.2 per cent in 1977, but it was still 5 per cent over the average for 1970 - 1974. However, it was 4.8 per cent below the figure for the peak year 1974 when a heavy output of steel had involved considerable iron ore and coal traffic and when there were heavy imports of oil products.

The figures for total seaport traffic reflect the effects of the economic situation. The yearly increase for 1970 - 1977 was only 2 per cent as compared with 8 per cent during the period 1965 - 1970.

Goods loaded and unloaded followed different trends. They both rose by nearly 8 per cent between 1965 and 1970, but their respective trends differed from 1970 to 1977: a yearly increase of 3.8 per cent for goods loaded and only 1.9 per cent for goods unloaded.

Comments concerning individual countries

The following table shows the trend of goods loaded and unloaded in the seaports of the various countries in 1977, first by reference to the average for 1970 - 1974 and secondly by reference to 1976. All the figures are percentages.

| | GOODS LOADED (difference by reference to 1970 - 1974) | GOODS UN LOADED | TOTAL TRAFFIC (difference by reference to 1976) |
|-------------------------------------|--|-----------------|---|
| Federal Republic of Germany | 24.9 | - 2.8 | - 2.2 |
| Belgium | 14.5 | - 8.7 | 2.8 |
| Spain | 58.2 | 21.8 | - 1.0 |
| France | 41.8 | 12.8 | - 3.3 |
| United Kingdom | 54.6 | - 23.5 | - 2.9 |
| Norway | - 20.4 | 4.1 | - 7.1 |
| Netherlands | 0.7 | 7.2 | - 3.9 |
| Sweden | - 16.3 | 3.1 | - 4.8 |
| Greece | 205.6 | 25.5 | - 1.0 |
| Portugal | - 19.4 | 32.6 | 6.1 |
| Yugoslavia | + 29.1 | 31.0 | 5.0 |
| Italy | + 1.3 | - 0.7 | 2.0 |

These figures show that total traffic in 1977 fell in the main seaports of all the countries mentioned except Belgium, Yugoslavia, Portugal and Italy. The main reason lies in lower imports of crude oil. Ore transport also declined but container transport showed a distinct increase.

By comparison with the average 1970 - 1974, goods loaded in 1977 rose distinctly faster than goods unloaded in most of the countries mentioned. The only exceptions are the Netherlands, Norway, Sweden, Portugal and Yugoslavia, where the figures for inbound traffic were much better than for outbound. The case of the United Kingdom is worthy of note, inbound traffic was plainly below the average for 1970 - 1974 but outbound traffic was above it.

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Table 1. RAIL PASSENGER TRANSPORT

| (a) Passengers Carried | Million | | | | | | | | |
|----------------------------|---------|------|------|------|------|------|------|------|------|
| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
| Germany * | 1070 | 930 | 986 | 979 | 1019 | 1051 | 1008 | 971 | 971 |
| Austria | . | . | . | . | . | . | . | . | . |
| Belgium * | 187 | 183 | 184 | 180 | 178 | 180 | 178 | 173 | 178 |
| Denmark * | . | 115 | 115 | 112 | 109 | 106 | 101 | 100 | 89 |
| Spain | 328 | 314 | 314 | 326 | 335 | 336 | 333 | 334 | 339 |
| Finland | 31 | 23 | 25 | 28 | 30 | 33 | 36 | 37 | 37 |
| France * | 620 | 613 | 608 | 626 | 620 | 642 | 658 | 675 | 694 |
| United Kingdom * | 865 | 824 | 816 | 754 | 728 | 733 | 730 | 708 | 702 |
| Greece | 12 | 13 | 13 | 13 | 13 | 12 | 12 | 13 | 13 |
| Ireland * | 9 | 10 | 11 | 12 | 13 | 15 | 14 | 14 | 15 |
| Italy * | 321 | 343 | 347 | 355 | 361 | 387 | 370 | 390 | 394 |
| Luxemburg * | 8 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 |
| Norway | 34 | 29 | 29 | 29 | 30 | 33 | 33 | 33 | 34 |
| Netherlands * | 192 | 188 | 188 | 184 | 181 | 183 | 176 | 172 | 171 |
| Portugal | 127 | 145 | 146 | 154 | 166 | 179 | 183 | 192 | 196 |
| Sweden | 70 | 60 | 56 | 65 | 69 | 78 | 76 | 76 | 76 |
| Switzerland | 239 | 231 | 230 | 224 | 224 | 220 | 211 | 208 | 205 |
| Turkey | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 236 | 152 | 146 | 141 | 137 | 135 | 139 | 126 | 129 |

ECMT Countries (19)

* EEC Countries (9)

Table 1. RAIL PASSENGER TRANSPORT

(b) Passenger-Kilometres

Million

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Germany * | 38419 | 37314 | 37592 | 38824 | 38945 | 39734 | 36897 | 37100 | 37348 |
| Austria | . | . | . | . | . | . | . | . | . |
| Belgium * | 8008 | 7567 | 7750 | 7510 | 7449 | 7641 | 7650 | 7575 | 7346 |
| Denmark * | . | . | . | . | . | . | . | . | 3100 |
| Spain | 13906 | 14992 | 15118 | 16034 | 17250 | 17633 | 17643 | 18183 | 18643 |
| Finland | 2050 | 2156 | 2349 | 2594 | 2773 | 3047 | 3135 | 2985 | 2977 |
| France * | 38300 | 41000 | 41100 | 43200 | 44700 | 47300 | 50700 | 51500 | 52300 |
| United Kingdom * | 30116 | 30408 | 30127 | 29100 | 29800 | 30900 | 30300 | 28500 | 29290 |
| Greece | 1131 | 1531 | 1635 | 1563 | 1571 | 1594 | 1553 | 1583 | 1625 |
| Ireland * | 542 | 754 | 783 | 844 | 875 | 881 | 899 | 788 | 873 |
| Italy * | 26502 | 32457 | 33948 | 35394 | 36359 | 37880 | 36332 | 39118 | 38361 |
| Luxemburg * | 185 | 205 | 207 | 208 | 217 | 231 | 234 | 240 | 240 |
| Norway | 1712 | 1569 | 1596 | 1622 | 1640 | 1884 | 1948 | 1997 | 2004 |
| Netherlands * | 7715 | 8010 | 8114 | 8039 | 8173 | 8589 | 8501 | 8218 | 8013 |
| Portugal. | 2970 | 3546 | 3569 | 3761 | 4106 | 4552 | 4856 | 5235 | 5235 |
| Sweden | 5290 | 4559 | 3914 | 4412 | 4645 | 5480 | 5615 | 5617 | 5563 |
| Switzerland | 7859 | 8168 | 8226 | 8306 | 8402 | 8289 | 7984 | 8115 | 8028 |
| Turkey | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 12800 | 10939 | 10566 | 10576 | 10578 | 10429 | 10284 | 9941 | 10459 |

ECMT Countries (19)

* EEC Countries (9)

Table 2. RAIL GOODS TRANSPORT

(a) Tonnes Carried

Million Tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------------|------|------|------|------|------|------|------|------|------|
| Germany * | 298 | 352 | 324 | 326 | 342 | 352 | 287 | 299 | 280 |
| Austria | . | . | . | . | . | . | . | . | . |
| Belgium * | 65 | 72 | 67 | 70 | 76 | 83 | 59 | 60 | 58 |
| Denmark * | . | . | . | . | . | . | . | . | 7 |
| Spain | 44 | 43 | 43 | 47 | 49 | 51 | 47 | 47 | 48 |
| Finland | 21 | 24 | 22 | 24 | 26 | 27 | 22 | 23 | 22 |
| France * | 239 | 250 | 240 | 246 | 258 | 266 | 219 | 227 | 214 |
| United Kingdom * | 232 | 209 | 198 | 178 | 197 | 176 | 175 | 176 | 170 |
| Greece | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| Ireland * | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 |
| Italy * | 50 | 58 | 54 | 54 | 55 | 53 | 43 | 48 | 50 |
| Luxemburg * | 16 | 20 | 21 | 22 | 23 | 23 | 17 | 16 | 14 |
| Norway | 24 | 29 | 28 | 29 | 31 | 31 | 25 | 29 | 24 |
| Netherlands * | 27 | 27 | 23 | 22 | 24 | 23 | 18 | 18 | 18 |
| Portugal | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 |
| Sweden | 56 | 66 | 60 | 62 | 68 | 73 | 58 | 59 | 51 |
| Switzerland | 37 | 46 | 45 | 46 | 48 | 46 | 34 | 37 | 39 |
| Turkey | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 75 | 75 | 76 | 72 | 75 | 82 | 78 | 78 | 77 |

ECMT Countries (19)

* EEC Countries (9)

Table 2. RAIL GOODS TRANSPORT

(b) Tonne-Kilometres

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Germany * | 57298 | 70268 | 64623 | 63836 | 66356 | 68274 | 54311 | 58390 | 54886 |
| Austria | . | . | . | . | . | . | . | . | . |
| Belgium * | 6814 | 7876 | 7387 | 7546 | 8238 | 9199 | 6757 | 6648 | 6485 |
| Denmark * | . | . | . | . | . | . | . | . | 1800 |
| Spain | 9209 | 10339 | 10112 | 10753 | 12002 | 12009 | 11079 | 11159 | 11826 |
| Finland | 5191 | 6279 | 5760 | 6503 | 7016 | 7493 | 6444 | 6550 | 6399 |
| France * | 64560 | 70410 | 67040 | 68610 | 73870 | 77060 | 64040 | 68510 | 66210 |
| United Kingdom * | 25229 | 26807 | 24279 | 23357 | 25566 | 24168 | 23474 | 23104 | 22800 |
| Greece | 564 | 688 | 748 | 756 | 798 | 902 | 931 | 844 | 855 |
| Ireland * | 376 | 545 | 575 | 564 | 568 | 603 | 568 | 595 | 596 |
| Italy * | 15357 | 18069 | 17226 | 17120 | 17629 | 18145 | 14885 | 16376 | 17100 |
| Luxemburg * | 622 | 763 | 746 | 781 | 786 | 866 | 660 | 628 | 567 |
| Norway | 2056 | 2740 | 2527 | 2559 | 2787 | 2949 | 2623 | 2771 | 2631 |
| Netherlands * | 3710 | 3710 | 3420 | 3255 | 3470 | 3370 | 2735 | 2700 | 2805 |
| Portugal | 755 | 776 | 812 | 797 | 819 | 867 | 754 | 854 | 885 |
| Sweden | 13883 | 17311 | 15658 | 16214 | 18260 | 19598 | 16057 | 16238 | 14782 |
| Switzerland | 7859 | 8168 | 8226 | 8306 | 8402 | 8289 | 7984 | 8115 | 8028 |
| Turkey | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 18036 | 19253 | 19653 | 19179 | 20447 | 23081 | 21035 | 21017 | 22225 |

ECMT Countries (19)

* EEC Countries (9)

Table 3. INTERNATIONAL GOODS TRANSPORT BY RAIL

| Goods loaded | Thousand Tonnes | | | | | | | | |
|----------------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
| Germany * | 32670 | 40382 | 36517 | 38315 | 41111 | 45787 | 35761 | 38319 | 32900 |
| Austria | . | . | . | . | . | . | . | . | . |
| Belgium * | 8800 | 13200 | 12500 | 12500 | 13700 | 15000 | 12000 | 12500 | 12700 |
| Denmark * | . | . | . | . | . | . | . | . | . |
| Spain | . | 1804 | 1610 | 1959 | 2293 | 2134 | 1700 | 1842 | 2108 |
| Finland | 659 | 932 | 1031 | 1323 | 1146 | 1260 | 1308 | 1463 | 1402 |
| France * | 30511 | 32694 | 33391 | 33710 | 34897 | 35097 | 25651 | 27758 | 25502 |
| United Kingdom * | . | . | . | . | . | 40 | 170 | 203 | 260 |
| Greece | 142 | 584 | 683 | 624 | 637 | 1094 | 1244 | 1002 | 1005 |
| Ireland * | — | — | — | 216 | 242 | 245 | 192 | 267 | 159 |
| Italy * | 10086 | 10552 | 11979 | 11949 | 10747 | 9996 | 9627 | 9607 | 10775 |
| Luxemburg * | 3673 | 4036 | 4338 | 4602 | 4904 | 5110 | 3585 | 3417 | 3432 |
| Norway | . | . | . | . | . | . | . | . | . |
| Netherlands * | 11700 | 15200 | 14100 | 13500 | 16200 | 15300 | 12000 | 11900 | 11800 |
| Portugal | 191 | 171 | 167 | 175 | 260 | 225 | 190 | 237 | 303 |
| Sweden | 19138 | 24568 | 23291 | 24570 | 27135 | 27280 | 19074 | 21497 | 17362 |
| Switzerland | 1400 | 1800 | 1800 | 1900 | 2200 | 2300 | 1100 | 1900 | . |
| Turkey | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 2700 | 4100 | 3800 | 4400 | 4400 | 4700 | 3700 | 4600 | 4700 |

ECMT Countries (19)

* EEC Countries (9)

Table 4. AVERAGE LENGTH OF JOURNEY OR HAUL

Kilometres

| | PER PASSENGER | | | PER TONNE | | |
|----------------------------|---------------|------|------|-----------|------|------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany * | 36 | 38 | 39 | 192 | 197 | 196 |
| Austria | . | . | . | . | . | . |
| Belgium * | 40 | 38 | 41 | 106 | 110 | 111 |
| Denmark * | . | . | 35 | . | . | 253 |
| Spain | 70 | 81 | 81 | 282 | 314 | 305 |
| Finland | 66 | 94 | 81 | 247 | 262 | 290 |
| France * | 62 | 68 | 77 | 270 | 282 | 309 |
| United Kingdom * | 35 | 37 | 42 | 109 | 128 | 134 |
| Greece | 110 | 121 | 121 | 286 | 233 | 245 |
| Ireland * | 60 | 73 | 59 | 154 | 158 | 167 |
| Italy * | 83 | 95 | 98 | 307 | 312 | 336 |
| Luxemburg * | 23 | 21 | 21 | 38 | 38 | 39 |
| Norway | 50 | 54 | 59 | 86 | 95 | 110 |
| Netherlands * | 39 | 41 | 45 | 144 | 143 | 183 |
| Portugal | 23 | 26 | 28 | 203 | 198 | 242 |
| Sweden | 76 | 76 | 73 | 246 | 263 | 288 |
| Switzerland | 33 | 35 | 39 | 140 | 145 | 153 |
| Turkey | . | . | . | . | . | . |
| Yugoslavia | 54 | 70 | 85 | 241 | 255 | 287 |

ECMT Countries (19)

* EEC Countries (9)

Table 5. LENGTH OF RAIL NETWORK

(a) Route Length

Kilometres

| | 1965 | 1970 | 1975 | 1976 | 1977 | Increase 1976 to 1977 (km) |
|------------------|-------|-------|-------|-------|-------|----------------------------------|
| Germany * | 30372 | 29555 | 28824 | 28581 | 28557 | - 24 |
| Austria | . | . | . | . | . | . |
| Belgium * | 4441 | 4165 | 3998 | 3898 | 4003 | + 3 |
| Denmark * | . | . | . | . | 2004 | . |
| Spain | 17432 | 16378 | 15722 | 15739 | 15758 | + 19 |
| Finland | 5470 | 5841 | 5957 | 6036 | 6089 | + 53 |
| France * | 38065 | 36019 | 34297 | 34299 | 34150 | - 149 |
| United Kingdom * | 24013 | 18989 | 18118 | 18007 | 17973 | - 34 |
| Greece | 2612 | 2602 | 2476 | 2479 | 2479 | - |
| Ireland * | 2857 | 2189 | 2006 | 2008 | 2005 | - 3 |
| Italy * | 16140 | 16073 | 16077 | 16143 | 16177 | + 0,2 |
| Luxemburg * | 337 | 271 | 275 | 274 | 274 | - |
| Norway | 4297 | 4242 | 4241 | 4241 | 4241 | - |
| Netherlands * | 3235 | 3148 | 2825 | 2825 | 2850 | + 25 |
| Portugal | 3591 | 3591 | 3592 | 3592 | 3588 | - 4 |
| Sweden | 13433 | 12203 | 12065 | 12061 | 12077 | + 16 |
| Switzerland | 2934 | 2926 | 2933 | 2933 | 2934 | + 1 |
| Turkey | . | . | . | . | . | . |
| Yugoslavia | 11839 | 10289 | 9995 | 9967 | 9967 | - |

ECMT Countries (19)

* EEC Countries (9)

Table 5. LENGTH OF RAIL NETWORK

(b) Routes Electrified

Kilometres

| | 1965 | 1970 | 1975 | 1976 | 1977 | Proposed 1980 |
|------------------|------|------|-------|-------|-------|------------------|
| Germany * | 6472 | 8586 | 10003 | 10341 | 10546 | 11080 |
| Austria | . | . | . | . | . | . |
| Belgium * | 1078 | 1218 | 1276 | 1296 | 1302 | 1552 |
| Denmark * | . | . | . | . | 103 | 114 |
| Spain | 3533 | 3749 | 4201 | 4883 | 5321 | . |
| Finland | — | 66 | 395 | 394 | 515 | 934 |
| France * | 8323 | 9251 | 9252 | 9267 | 9553 | . |
| United Kingdom * | 2886 | 3162 | 3611 | 3709 | 3767 | 3940 (1982) |
| Greece | — | — | — | — | — | — |
| Ireland * | — | — | — | — | — | — |
| Italy * | 7953 | 7916 | 7986 | 8182 | 8413 | . |
| Luxemburg * | 136 | 136 | 137 | 137 | 137 | . |
| Norway | 2014 | 2440 | 2440 | 2440 | 2440 | . |
| Netherlands * | 1624 | 1646 | 1712 | 1719 | 1731 | 1743 |
| Portugal | 404 | 404 | 404 | 404 | 404 | 404 |
| Sweden | 7587 | 7520 | 7484 | 7479 | 7479 | 7582 |
| Switzerland | 2906 | 2911 | 2918 | 2918 | 2919 | . |
| Turkey | . | . | . | . | . | . |
| Yugoslavia | 472 | 1510 | 2649 | 2649 | 2912 | . |

ECMT Countries (19)

* EEC Countries (9)

Table 6. RAIL OPERATIONS : TRAIN KILOMETRES
AND GROSS TONNE KILOMETRES

million

| | TRAIN KILOMETRES | | | | | GROSS TONNE KILOMETRES | | | | |
|----------------------------|------------------|------|------|------|------|------------------------|--------|--------|--------|--------|
| | 1965 | 1970 | 1975 | 1976 | 1977 | 1965 | 1970 | 1975 | 1976 | 1977 |
| Germany * | 561 | 615 | 590 | 576 | 570 | 228020 | 269177 | 236006 | 242954 | 235231 |
| Austria | . | . | . | . | . | . | . | . | . | . |
| Belgium * | 81 | 83 | 87 | 88 | 89 | 30370 | 33053 | 33042 | 33534 | 33404 |
| Denmark * | . | . | . | . | 45 | . | . | . | . | 12000 |
| Spain | 44 | 45 | 44 | 45 | 44 | 21335 | 23574 | 25623 | 26091 | 26705 |
| Finland | 47 | 43 | 44 | 43 | 43 | 15876 | 17982 | 19495 | 19739 | 19137 |
| France * | 455 | 469 | 480 | 489 | 492 | 235943 | 253500 | 252221 | 255717 | 260300 |
| United Kingdom * | 519 | 470 | 454 | 446 | 446 | . | . | 162954 | 162330 | 162939 |
| Greece. | 19 | 19 | 18 | 18 | 17 | 2704 | 4317 | 4723 | 4589 | 4636 |
| Ireland * | 12 | 12 | 11 | 11 | 11 | — | — | — | — | — |
| Italy * | 255 | 277 | 279 | 289 | 293 | 90186 | 100193 | 102441 | 108430 | 110120 |
| Luxemburg * | 4 | 4 | 4 | 4 | . | 1558 | 1976 | 1784 | 1729 | — |
| Norway | 33 | 32 | 34 | 35 | 35 | . | . | . | . | . |
| Netherlands * | 77 | 98 | 107 | 108 | 108 | 24667 | 26847 | 24769 | 24832 | 24432 |
| Portugal. | 26 | 26 | 28 | 27 | 34 | 5163 | 6392 | 7385 | 7528 | 8269 |
| Sweden | 119 | 111 | 104 | 105 | 104 | 43923 | 47342 | 45668 | 46110 | 43805 |
| Switzerland | 83 | 89 | 89 | 92 | 94 | 28313 | 33518 | 31408 | 33303 | 34086 |
| Turkey | . | . | . | . | . | . | . | . | . | . |
| Yugoslavia | 119 | 121 | 127 | 126 | 127 | 50838 | 55221 | 59874 | 58140 | 60826 |

ECMT Countries (19)

* EEC Countries (9)

Table 7. ROLLING STOCK : 1977

| | Nombre | | | | | | |
|----------------------------|-------------|-------|-------------------|---------|------|--------------|-------------------|
| | LOCOMOTIVES | | POWERED PASSENGER | | VANS | GOODS WAGONS | |
| | ELECTRIC | OTHER | RAIL CARS | COACHES | | ALL | OF WHICH EUR-POOL |
| Germany * | 2688 | 4728 | 2214 | 16026 | 1193 | 287716 | 121530 |
| Austria | . | . | . | . | . | . | . |
| Belgium * | 247 | 936 | 552 | 2327 | 66 | 48079 | 25200 |
| Denmark * | — | 389 | — | 1165 | 105 | 8874 | 4702 |
| Spain | 445 | 960 | 4155 | . | 621 | 51900 | . |
| Finland | . | . | . | . | . | . | . |
| France * | . | . | . | . | . | . | . |
| United Kingdom * | 320 | 3366 | 4711 | 17044 | 4838 | 166935 | 513 |
| Greece | . | . | . | . | . | . | . |
| Ireland * | — | 213 | — | 362 | 129 | 5659 | . |
| Italy * | . | . | . | . | . | . | . |
| Luxemburg * | . | . | . | . | . | . | . |
| Norway | . | . | . | . | . | . | . |
| Netherlands * | 112 | 468 | 1660 | 309 | 54 | 16160 | 5099 |
| Portugal. | 49 | 149 | 188 | 523 | 138 | 5830 | — |
| Sweden | 803 | 684 | 414 | 1864 | 233 | 47823 | . |
| Switzerland | 886 | 109 | 195 | 3899 | 573 | 25585 | 10116 |
| Turkey | . | . | . | . | . | . | . |
| Yugoslavia | 389 | 1169 | 2975 | . | 449 | 49265 | . |

ECMT Countries (19)

* EEC Countries (9)

Table 8. ENERGY CONSUMPTION FOR RAIL TRACTION

(a) Diesel Fuel and Electrical Energy

Tonnes of Coal Equivalent (TCE)

| | THOUSANDS TCE | | | | TCE PER MILLION GROSS TONNE-KM | | | |
|----------------------------|---------------|------|------|------|--------------------------------|-------|-------|-------|
| | 1970 | 1975 | 1976 | 1977 | 1970 | 1975 | 1976 | 1977 |
| Germany * | 4457 | 3301 | 3167 | 3070 | 16,55 | 13,99 | 13,04 | 13,02 |
| Austria | . | . | . | . | . | . | . | . |
| Belgium * | 492 | 517 | 513 | 517 | 15,13 | 15,63 | 15,32 | 15,39 |
| Denmark * | . | . | . | . | . | . | . | . |
| Spain | 657 | 753 | 798 | 815 | 27,9 | 29,4 | 30,6 | 30,5 |
| Finland | 189 | 165 | 171 | 171 | 8,8 | 7,1 | 7,3 | 7,5 |
| France * | 2782 | 2462 | 2579 | 2560 | 11,0 | 9,8 | 9,7 | 9,8 |
| United Kingdom * | 2210 | 2142 | 2082 | 2302 | . | 13,1 | 12,9 | 14,1 |
| Greece | 127 | 66 | 63 | 60 | 29,5 | 14,0 | 13,7 | 12,9 |
| Ireland * | 45 | 46 | 45 | 47 | — | — | — | — |
| Italy * | . | . | . | . | . | . | . | . |
| Luxemburg * | 27 | 27 | 30 | 29 | 13,5 | 15,0 | 17,3 | 17,8 |
| Norway | 176 | 179 | 191 | . | . | . | . | . |
| Netherlands * | 490 | 460 | 460 | 420 | 18,3 | 18,5 | 18,5 | 17,2 |
| Portugal | 111 | 131 | 137 | 148 | 18,1 | 18,0 | 18,3 | 18,1 |
| Sweden | . | . | . | . | . | . | . | . |
| Switzerland | 775 | 691 | 719 | 719 | 23,1 | 22,0 | 21,6 | 21,1 |
| Turkey | . | . | . | . | . | . | . | . |
| Yugoslavia | 374 | 561 | 575 | 623 | . | 9,4 | 9,9 | . |

ECMT Countries (19)

* EEC Countries (9)

Table 8. ENERGIE CONSUMPTION FOR RAIL TRACTION

(b) Consumption by type of energy 1977

Thousand TCE/Percentage

| | RAIL CONSUMPTION | | RAIL AS % OF ALL FINAL USERS | |
|----------------------------|----------------------|----------------|---------------------------------|----------------|
| | ELECTRICAL ENERGY | DIESEL FUEL | ELECTRICAL ENERGY | DIESEL FUEL |
| Germany * | 2335 | 735 | 1,82 | 0,66 |
| Austria | . | . | . | . |
| Belgium * | 329 | 188 | . | . |
| Denmark * | . | . | . | . |
| Spain | 436 | 379 | 1,47 | 1,28 |
| Finland | . | . | . | . |
| France * | . | . | . | . |
| United Kingdom * | 1277 | 1025 | 1,07 | 3,80 |
| Greece | . | . | . | . |
| Ireland * | . | 47 | . | . |
| Italy * | . | . | . | . |
| Luxemburg * | . | . | . | . |
| Norway | . | . | . | . |
| Netherlands * | 381 | 39 | . | . |
| Portugal | 82 | 86 | . | . |
| Sweden | 743 | 43 | . | . |
| Switzerland | 1999 | . | 5,8 | . |
| Turkey | . | . | . | . |
| Yugoslavia | . | . | . | . |

ECMT Countries (19)

* EEC Countries (9)

Table 9. PASSENGER TRANSPORT ON NATIONAL TERRITORY

a) TWO-WHEELED MOTOR VEHICLES

1000 million passenger - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|------|------|------|------|------|------|------|------|------|
| Germany | | | | | | | | | |
| Austria | | | | | | | | | |
| Belgium | | | | | | | | | |
| Denmark | | | | | | | | | |
| Spain | 4.0 | 3.3 | 2.8 | 2.7 | 2.1 | 1.9 | 2.7 | 2.0 | 1.9 |
| Finland | | | | | | | | | |
| France | | | | | | | | | |
| United Kingdom | 7.5 | 4.5 | 4.4 | 4.0 | 4.2 | 4.5 | 5.6 | 6.7 | 7.3 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 27.6 | 22.5 | 23.1 | 26.1 | 26.5 | 25.1 | 27.1 | 27.1 | 29.3 |
| Luxemburg | | | | | | | | | |
| Norway | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Netherlands | 1.1 | 5.0 | 4.0 | 4.0 | 5.0 | 6.0 | 8.0 | 8.0 | 9.0 |
| Portugal | 3.8 | 5.5 | 5.9 | 6.2 | 6.6 | 7.1 | 7.5 | 8.0 | 8.3 |
| Sweden | | | | | | | | | |
| Switzerland | 1.9 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.0 | 3.0 | 3.1 |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 46.6 | 44.1 | 43.6 | 46.5 | 48.0 | 48.3 | 54.5 | 55.4 | 59.5 |

Table 9. PASSENGER TRANSPORT ON NATIONAL TERRITORY
b) CARS AND TAXIS

1 000 millions passenger - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Germany | 268.6 | 362.3 | 373.6 | 379.2 | 391.3 | 384.0 | 407.20 | 419.40 | 430.90 |
| Austria | | | | | | | | | |
| Belgium | 25.7 | 39.7 | 44.9 | 47.2 | 49.0 | 51.1 | 53.1 | 55.5 | 58.1 |
| Denmark | | | | | | 36.9 | | 39.7 | 40.8 |
| Spain | 23.71 | 60.98 | 71.18 | 79.71 | 89.96 | 92.65 | 99.33 | 104.75 | 110.65 |
| Finland | | | | | | | | | |
| France | | | | | | | | | |
| United Kingdom | 223.5 | 304.2 | 325.8 | 342.8 | 359.6 | 345.3 | 346.6 | 356.4 | 363.2 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 81.2 | 211.9 | 248.9 | 273.3 | 278.2 | 258.5 | 279.3 | 287.5 | 296.5 |
| Luxemburg | | | | | | | | | |
| Norway | 6.6 | 10.6 | 11.4 | 12.1 | 23.9 | 25.6 | 27.1 | 28.9 | 31.0 |
| Netherlands | 42.0 | 79.4 | 90.4 | 99.9 | 102.7 | 100.6 | 102.9 | 101.1 | 103.1 |
| Portugal | 8.9 | 16.9 | 19.5 | 21.6 | 24.0 | 26.4 | 28.6 | 31.5 | 35.2 |
| Sweden | | 70.8 | 73.4 | 76.0 | 78.1 | 81.1 | 85.8 | 89.5 | 91.2 |
| Switzerland | 28.3 | 42.0 | 44.4 | 47.4 | 50.5 | 51.5 | 51.2 | 53.9 | 55.9 |
| Turkey | | | | | | | | | |
| Yugoslavia | 6.6 | 16.6 | 20.6 | 24.3 | 27.7 | 31.7 | 37.1 | 42.2 | 47.2 |
| TOTAL | 715.1 | 1188.8 | 1324.1 | 1403.5 | 1474.9 | 1485.3 | 1518.3 | 1610.3 | 1663.8 |

Table 9. PASSENGER TRANSPORT ON NATIONAL TERRITORY
c) COACHES, BUSES AND TROLLEY-BUSES

1000 millions passenger - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Germany | 40.8 | 49.6 | 51.8 | 53.7 | 55.8 | 57.7 | 59.6 | 59.7 | 61.5 |
| Austria | | | | | | | | | |
| Belgium | 8.3 | 9.3 | 9.4 | 9.6 | 9.6 | 9.9 | 9.9 | 9.3 | 9.5 |
| Denmark | | 4.6 | 4.9 | 5.1 | 5.4 | 5.6 | 5.7 | 6.0 | |
| Spain | 11.2 | 10.9 | 23.3 | 28.6 | 22.5 | 25.2 | 26.9 | 30.2 | 33.1 |
| Finland | | | | | | | | | |
| France | | | | | | | | | |
| United Kingdom | 63.0 | 56.5 | 56.5 | 55.0 | 54.0 | 54.0 | 54.0 | 53.0 | 53.0 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 27.9 | 32.0 | 33.3 | 36.8 | 38.6 | 40.1 | 42.3 | 48.2 | 54.6 |
| Luxemburg | | | | | | | | | |
| Norway | 3.3 | 3.7 | 3.8 | 3.9 | 4.1 | 4.1 | 4.0 | 3.9 | |
| Netherlands | 11.0 | 10.7 | 10.5 | 10.5 | 10.6 | 10.8 | 10.8 | 11.4 | 11.5 |
| Portugal | 3.7 | 4.4 | 4.6 | 4.7 | 4.9 | 5.0 | 5.2 | 5.4 | |
| Sweden | 2.6 | 3.2 | 3.3 | 3.5 | 3.7 | 3.9 | 3.8 | 4.1 | 4.2 |
| Switzerland | | | | | | | | | |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 171.8 | 184.9 | 201.3 | 211.5 | 209.0 | 216.4 | 232.1 | 231.2 | 227.4 |

Table 10. GOODS TRANSPORT BY ROAD
a) (NATIONAL AND FOREIGN VEHICLES)

million Tonnes

06

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Germany | 1643 | 2137 | 2194 | 2273 | 2367 | 2215 | 2080 | 2182 | 2221 |
| Austria | | | | | | | | | |
| Belgium | 227 | 315 | 342 | 339 | 342 | 343 | 338 | 332 | 314 |
| Denmark | | 280 | 284 | 286 | 292 | 288 | 282 | 289 | |
| Spain | | | | | | | | | |
| Finland | | | | | | | | | |
| France | 1231 | 1432 | 1451 | 1484 | 1529 | 1550 | 1357 | 1427 | 1385 |
| United Kingdom | 1590 | 1610 | 1582 | 1629 | 1672 | 1538 | 1602 | 1516 | 1422 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | | | | | | | | | |
| Luxemburg | | | | 13 | 15 | 13 | 17 | 13 | 21 |
| Norway | | 181 | 186 | 186 | 196 | 205 | 212 | 220 | 228 |
| Netherlands | 269 | 327 | 334 | 343 | 354 | 364 | 362 | 375 | 365 |
| Portugal | | | | | | | | | |
| Sweden | | 480 | | 447 | 507 | 491 | 448 | 403 | 403 |
| Switzerland | 198 | 252 | 263 | 280 | 311 | 308 | 218 | 240 | 251 |
| Turkey | | | | | | | | | |
| Yugoslavia | 36 | 59 | 72 | 74 | 74 | 81 | 83 | 84 | 100 |
| TOTAL | 5194 | 7073 | 6708 | 7351 | 7659 | 7370 | 6998 | 7084 | 6716 |

Table 10. GOODS TRANSPORT BY ROAD
b) (NATIONAL AND FOREIGN VEHICLES)

1000 Million Tonnes - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Germany | 62.5 | 78.0 | 81.6 | 87.3 | 94.9 | 95.0 | 93.1 | 103.5 | 106.9 |
| Austria | | | | | | | | | |
| Belgium | 8.5 | 13.1 | 14.3 | 15.2 | 16.0 | 17.0 | 16.5 | 15.8 | 15.7 |
| Denmark | | | | | | | 9.6 | | 10.8 |
| Spain | 33.2 | 51.7 | 58.6 | 65.1 | 70.8 | 78.1 | 76.5 | 79.2 | 82.3 |
| Finland | 7.4 | 10.4 | | | | | | 13.6 | 13.6 |
| France | 43.5 | 62.4 | 68.3 | 74.6 | 83.2 | 87.4 | 78.5 | 83.9 | 85.5 |
| United Kingdom | 68.8 | 85.0 | 85.9 | 87.5 | 90.4 | 89.9 | 95.3 | 95.6 | 98.0 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 45.8 | 58.7 | 57.5 | 59.0 | 61.9 | 62.4 | 62.8 | 66.7 | 74.4 |
| Luxemburg | 0.2 | 0.2 | 0.2 | 0.5 | 0.6 | 0.7 | 0.6 | 0.7 | 0.8 |
| Norway | 2.2 | 3.2 | 3.5 | 3.7 | 4.1 | 4.4 | 4.7 | 5.0 | 5.4 |
| Netherlands | 8.9 | 12.39 | 13.99 | 13.97 | 15.16 | 15.63 | 15.44 | 16.67 | 16.50 |
| Portugal | | | | | | | | | |
| Sweden | 6.8 | 17.8 | | 18.2 | 20.7 | 21.5 | 20.2 | 20.6 | 19.9 |
| Switzerland | 2.8 | 4.2 | 4.7 | 5.2 | 6.1 | 6.4 | 4.5 | 5.0 | 5.2 |
| Turkey | | | | | | | | | |
| Yugoslavia | 3.0 | 6.7 | 7.3 | 8.1 | 8.5 | 9.8 | 10.5 | 11.2 | 12.5 |
| TOTAL | 293.6 | 403.6 | 395.0 | 438.3 | 472.2 | 488.2 | 488.1 | 517.2 | 449.5 |

Table 10. GOODS TRANSPORT BY ROAD
c) (NATIONAL AND FOREIGN VEHICLES)

By type of firm

1000 Million Tonnes - km

| | For hire or reward | | | Own account | | | All | | |
|--------------------------|--------------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 40.6 | 51.1 | 69.3 | 21.9 | 26.9 | 37.6 | 62.5 | 78.0 | 106.9 |
| Austria | | | | | | | | | |
| Belgium | 3.8 | 6.2 | 8.2 | 4.7 | 6.9 | 7.4 | 8.5 | 13.1 | 15.7 |
| Denmark | | 4.6 | 5.4 | | 3.5 | 4.2 | | 8.1 | 9.6 |
| Spain | | | | | | | | | |
| Finland | | | | | | | | | |
| France | 23.3 | 38.0 | 49.2 | 20.2 | 24.4 | 36.3 | 43.5 | 62.4 | 85.5 |
| United Kingdom | 39.2 | 51.0 | 64.9 | 29.6 | 34.0 | 33.1 | 68.8 | 85.0 | 98.0 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 35.0 | 39.2 | 50.0 | 10.8 | 19.5 | 24.4 | 45.8 | 58.7 | 74.4 |
| Luxemburg | | | 0.3 | | | 0.5 | | | 0.8 |
| Norway | 1.0 | 1.3 | | 1.2 | 1.9 | | 2.2 | 3.2 | |
| Netherlands | 5.7 | 8.7 | 11.7 | 3.2 | 4.0 | 4.8 | 8.9 | 12.4 | 16.5 |
| Portugal | | | | | | | | | |
| Sweden | | 12.7 | 15.8 | 5.2 | 5.1 | 4.1 | | 17.8 | 19.9 |
| Switzerland | | | | | | | | | |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 148.6 | 212.5 | 274.8 | 96.8 | 126.2 | 152.4 | 240.2 | 338.7 | 427.2 |

Table 11. INTERNATIONAL GOODS TRANSPORT BY ROAD

| Goods loaded | Million (10 ⁶)tonnes | | | | | | | | |
|----------------|----------------------------------|------|------|------|------|------|------|------|------|
| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
| Germany * | 8.9 | 17.4 | 18.8 | 23.2 | 27.9 | 34.3 | 32.9 | 40.2 | 43.3 |
| Austria ** | 2.8 | 3.5 | 3.9 | 4.6 | 4.9 | 4.6 | 4.5 | 5.4 | |
| Belgium * | 9.1 | 21.4 | 22.0 | 26.2 | 30.1 | 29.7 | 29.8 | 33.9 | 35.3 |
| Denmark * | 2.4 | 3.3 | 3.8 | 3.8 | 3.9 | 4.0 | 4.2 | 4.2 | 4.2 |
| Spain ** | | 1.5 | 1.6 | 2.1 | 2.4 | 2.6 | 2.8 | 3.6 | 4.0 |
| Finlande ** | | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.2 | 0.3 | |
| France * | 9.9 | 20.6 | 23.7 | 25.9 | 28.9 | 28.7 | 25.9 | 28.8 | 31.0 |
| United Kingdom | 0.7 | 1.2 | 2.0 | 2.9 | 3.7 | 4.5 | 4.9 | 4.9 | 5.3 |
| Greece ** | | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 0.7 | |
| Irlande | | | | | | | | | |
| Italy * | 3.9 | 6.7 | 8.3 | 11.4 | 10.7 | 10.9 | 11.3 | 13.2 | 14.6 |
| Luxemburg * | 0.7 | 0.9 | 0.9 | 1.0 | 0.8 | 0.9 | 0.8 | 0.9 | |
| Norway | 0.4 | 0.8 | 0.8 | 1.0 | 1.2 | 1.7 | 2.0 | 2.1 | |
| Netherlands * | 6.9 | 11.0 | 12.5 | 15.0 | 17.1 | 17.9 | 17.2 | 19.7 | 19.8 |
| Portugal ** | | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | | |
| Sweden ** | 1.7 | 2.8 | | 3.8 | | 4.3 | 4.2 | 4.6 | |
| Switzerland ** | 0.4 | 1.0 | 1.0 | 1.2 | 1.3 | 1.5 | 1.5 | 1.9 | |
| Turkey | | | | | | | | | |
| Yugoslavia ** | 0.2 | 0.9 | 0.9 | 1.0 | 1.3 | 1.5 | 1.3 | 1.5 | |

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Table 12. ROAD TRAFFIC ON NATIONAL TERRITORY
a) TWO-WHEELED MOTOR VEHICLES

Million vehicles - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Germany | 5 600 | 2 400 | 2 200 | 2 300 | 2 600 | 2 900 | 3 200 | 3 600 | 3 800 |
| Austria | | | | | | | | | |
| Belgium | | | | | | | | | |
| Denmark | | | | | | | | | 2 400 |
| Spain | 2 983 | 2 489 | 2 115 | 2 020 | 1 571 | 1 420 | 1 704 | 1 536 | 1 460 |
| Finland | | | | | | | | | |
| France | | | | | | | | | |
| United-Kingdom | 6 700 | 3 900 | 3 800 | 3 500 | 3 700 | 4 000 | 4 900 | 5 800 | 6 700 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 24 700 | 20 500 | 21 000 | 23 000 | 24 300 | 23 000 | 24 700 | 24 700 | 26 800 |
| Luxemburg | | | | | | | | | |
| Norway | | | | | | | | | |
| Netherlands | 6 800 | 5 300 | 5 000 | 4 600 | 4 500 | 4 300 | 4 100 | 3 500 | 3 300 |
| Portugal | 303 | 437 | 466 | 494 | 573 | 552 | 591 | 636 | 657 |
| Sweden | | | | | | | | | |
| Switzerland | 1 900 | 2 700 | 2 800 | 2 900 | 3 000 | 3 100 | 3 000 | 3 000 | 3 100 |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 48 986 | 37 726 | 37 381 | 39 014 | 40 244 | 39 272 | 42 195 | 42 772 | 48 217 |

Table 12. ROAD TRAFFIC ON NATIONAL TERRITORY
b) CARS AND TAXIS

1000 millions de vehicles - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Germany | 143.4 | 201.1 | 214.6 | 221.6 | 229.8 | 227.2 | 245.1 | 255.0 | 265.5 |
| Austria | | | | | | | | | |
| Belgium | 15.1 | 21.6 | 22.6 | 23.9 | 25.1 | 26.3 | 27.4 | 28.7 | 30.1 |
| Denmark | | 20.3 | 20.6 | 21.5 | 22.3 | 21.4 | 21.9 | 22.4 | 23.0 |
| Spain | 9.6 | 24.6 | 28.8 | 32.2 | 36.4 | 37.5 | 40.3 | 42.9 | 45.3 |
| Finland | 7.2 | 11.9 | 12.5 | 14.0 | 15.5 | 15.4 | 16.9 | 17.4 | 17.4 |
| France | | | | | | | | | |
| United-Kingdom | 115.8 | 161.3 | 173.9 | 184.3 | 194.5 | 189.0 | 192.5 | 200.5 | 206.4 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | 12.1 |
| Italy | 45.1 | 122.5 | 144.6 | 159.8 | 160.8 | 147.7 | 158.7 | 162.5 | 166.6 |
| Luxemburg | | | | | | | | | |
| Norway | 4.9 | 7.9 | 8.5 | 9.0 | 9.6 | 12.1 | 12.5 | 13.3 | 14.3 |
| Netherlands | 22.5 | 41.8 | 46.6 | 51.0 | 51.9 | 50.6 | 51.7 | 50.5 | 54.2 |
| Portugal | 3.7 | 7.1 | 8.2 | 9.1 | 10.1 | 11.1 | 12.0 | 13.2 | 14.8 |
| Sweden | | | | | | | | | |
| Switzerland | 14.7 | 21.4 | 22.7 | 24.2 | 24.8 | 26.4 | 27.4 | 27.7 | 28.7 |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 382.0 | 641.5 | 703.6 | 750.6 | 780.8 | 764.7 | 806.4 | 834.1 | 878.4 |

Table 12. ROAD TRAFFIC ON NATIONAL TERRITORY
c) COACHES, BUSES AND TROLLEY - BUSES

Million vehicles - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Germany | 1 800 | 2 200 | 2 300 | 2 500 | 2 500 | 2 600 | 2 700 | 2 800 | 2 900 |
| Austria | | | | | | | | | |
| Belgium | 337 | 368 | 373 | 381 | 389 | 402 | 397 | 393 | 399 |
| Denmark | | | | | | 300 | 300 | 300 | 300 |
| Spain | 434 | 811 | 907 | 919 | 908 | 976 | 1 041 | 1 168 | 1 280 |
| Finland | 500 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 250 |
| France | | | | | | | | | |
| United-Kingdom | 3 900 | 3 600 | 3 600 | 3 600 | 3 600 | 3 500 | 3 600 | 3 500 | 3 700 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 1 200 | 1 400 | 1 400 | 1 500 | 1 600 | 1 700 | 1 700 | 1 900 | 2 100 |
| Luxemburg | | | | | | | | | |
| Norway | 200 | 200 | 200 | 200 | 300 | 300 | 300 | 400 | 600 |
| Netherlands | 492 | 511 | 502 | 503 | 513 | 544 | 557 | 580 | 579 |
| Portugal | 146 | 200 | 209 | 213 | 216 | 217 | 218 | 227 | |
| Sweden | | | | | | | | | |
| Switzerland | | | | | | | | | |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 9 009 | 9 890 | 10 091 | 10 416 | 10 620 | 11 139 | 11 413 | 11 868 | 12 108 |

Table 12 ROAD TRAFFIC ON NATIONAL TERRITORY
d) VEHICLES FOR GOOD TRANSPORT

Million vehicles - km

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Germany | 22 100 | 26 200 | 26 200 | 26 700 | 26 900 | 26 400 | 26 700 | 26 200 | 26 500 |
| Austria | | | | | | | | | |
| Belgium | | 3 158 | 3 440 | 3 397 | 3 361 | 3 254 | 3 172 | 2 971 | 2 895 |
| Denmark | 2 600 | 2 900 | 3 500 | 3 500 | 3 500 | 3 500 | 3 600 | 3 800 | 4 200 |
| Spain | 6 798 | 10 437 | 11 271 | 12 911 | 14 215 | 14 932 | 14 172 | 13 915 | 14 400 |
| Finland | | | | | | | | | |
| France | | | | | | | | | |
| United-Kingdom | 36 300 | 37 800 | 39 200 | 40 200 | 42 000 | 40 600 | 40 300 | 41 600 | 42 600 |
| Greece | | | | | | | | | |
| Ireland | | | | | | | | | |
| Italy | 17 200 | 22 600 | 22 500 | 23 300 | 23 400 | 23 500 | 24 200 | 25 300 | 27 000 |
| Luxemburg | | | | | | | | | |
| Norway | | | | | | | | | |
| Netherlands | 2 224 | 2 866 | 3 004 | 3 280 | 3 289 | 3 478 | 3 455 | 3 418 | 3 300 |
| Portugal | | | | | | | | | |
| Sweden | | | | | | | | | |
| Switzerland | | | | | | | | | |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 87 222 | 105 961 | 109 115 | 113 288 | 116 665 | 115 664 | 115 599 | 117 204 | 120 895 |

Table 13. VEHICLES FOR PASSENGER TRANSPORT

| Registered vehicles, by type | Milliers | | | | | | | | |
|------------------------------|----------------------|--------|--------|----------------|--------|--------|---------------------------|-------|-------|
| | TWO-WHEELED VEHICLES | | | CARS AND TAXIS | | | PUBLIC TRANSPORT VEHICLES | | |
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 1 924 | 1 433 | 2 596 | 9 267 | 13 941 | 20 020 | 39 | 47 | 66 |
| Austria | | | | | | | | | |
| Belgium | 531 | 431 | 607 | 1 436 | 2 060 | 2 871 | 9 | 10 | 13 |
| Denmark | | | 500 | 900 | 1 210 | 1 474 | 3.9 | 5.0 | 6.5 |
| Spain | 1 124 | 1 267 | 1 149 | 807 | 2 378 | 5 945 | 20 | 31 | 41 |
| Finland | 356 | 327 | 218 | 455 | 712 | 1 059 | 7 | 8 | 10 |
| France | 5 500 | 5 020 | 5 590 | 9 600 | 12 900 | 16 700 | 27 | 42 | 62 |
| United-Kingdom | 1 614 | 1 053 | 1 202 | 9 028 | 11 661 | 14 209 | 83 | 79 | 79 |
| Greece | 49 | 69 | | 104 | 227 | | 8 | 13 | |
| Ireland | 52 | 41 | 34 | 285 | 393 | 576 | 2 | 2 | 3 |
| Italy | 3 695 | 3 322 | 4 300 | 5 473 | 10 209 | 16 371 | 32 | 39 | 49 |
| Luxemburg | | 4 | 3.1 | 62 | 94 | 129 | 0.4 | 0.6 | 0.7 |
| Norway | 189 | 170 | 138 | 465 | 747 | 1 107 | 6 | 7 | 10 |
| Netherlands | 140 | 72 | 80 | 1 273 | 2 454 | 3 851 | 10 | 10 | 10 |
| Portugal | 41 | 59 | 86 | 275 | 523 | 1 068 | 4 | 5 | 7 |
| Sweden | 64 | 41 | 22 | 1 793 | 2 289 | 2 857 | 9 | 13 | 19 |
| Switzerland | 482 | 669 | 781 | 845 | 1 383 | 1 939 | 4 | 6 | 4 |
| Turkey | | | | | | | | | |
| Yugoslavia | 106 | 370 | 242 | 188 | 721 | 1 924 | 8 | 15 | 22 |
| TOTAL | 15 867 | 14 348 | 17 548 | 42 256 | 65 293 | 92 100 | 272.3 | 332.6 | 402.2 |

Table 14. GOODS TRANSPORT VEHICLES

a) Registered vehicles, by type

Milliers

| | LORRIES LESS THAN 1.5 t PAYLOAD | | | LORRIES MORE THAN 1.5 t PAYLOAD | | | TRACTORS | | | TRAILERS AND SEMI- TRAILERS | | |
|--------------------------|------------------------------------|-------------------------|---------|------------------------------------|---------|---------|----------|-------|-------|--------------------------------|-------|---------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 387.4 | 443.1 | 614.6 | 493.9 | 585.0 | 531.3 | 666.1 | 90.8 | 148.2 | 386.7 | 462.2 | 671.8 |
| Austria | | | | | | | | | | | | |
| Belgium | 60 | 89 | 89 | 107 | 97 | 100 | 2 | 11 | 15 | | 25 | 37 |
| Denmark | | 53.1 | 89.6 | | | 69.0 | 7.0 | 5.0 | 5.6 | | 17.3 | 22.3 |
| Spain | 162 | 341 | 590 | 205 | 369 | 527 | 3 | 6 | 18 | 12 | 18 | 38 |
| Finland | | 39.8 | 86.8 | | 61.0 | 45.2 | | 2.0 | 2.9 | | 15.8 | 19.0 |
| France | 632.1 | 767.8 | 1 119.5 | 533.5 | 658.7 | 972.2 | 29.5 | 53.8 | 109.5 | 56.2 | 81.4 | 143.0 |
| United-Kingdom | 940.0 | 985.0 | 1 222.0 | 660.0 | 631.0 | 483.0 | | | | including in 2nd column | | |
| Greece | | 64.4 | | | 43.0 | | | | | | | |
| Ireland | | including in 2nd column | | | 48.8 | 53.3 | | | | including in 2nd column | | |
| Italy | | including in 2nd column | | | 1 213.1 | | | 13.1 | | | 59.8 | 86 |
| Luxemburg | | 4.5 | 5.5 | | 4.0 | 4.5 | | 0.4 | 0.7 | | | |
| Norway | | 90.7 | 82.5 | | 52.6 | 58.0 | | 1.4 | 2.4 | | 37.5 | |
| Netherlands | 138 | 194 | 200 | 78 | 87 | 95 | 8 | 12 | 20 | | | |
| Portugal | 34.4 | 45.3 | 91.6 | 23.7 | 27.6 | 53.4 | 1.8 | 3.8 | 8.1 | 12.5 | 31.2 | 76.7 |
| Sweden | | 62.0 | 86.0 | | 78.4 | 79.5 | 3.2 | 4.1 | 3.7 | 51.3 | 84.5 | 191.5 |
| Switzerland | 49.0 | 60.2 | 82.8 | 35.0 | 50.9 | 55.6 | 1.8 | 2.7 | 2.3 | 40.1 | 51.6 | 50.9 |
| Turkey | | | | | | | | | | | | |
| Yugoslavia | 59 | 107 | 158 | | | | 19 | 31 | 81 | 25 | 41 | 92 |
| TOTAL | 2 461.9 | 3 346.9 | 4 517.9 | 2 136.1 | 4 007.1 | 3 127.0 | 141.4 | 237.1 | 417.4 | 583.8 | 925.3 | 1 428.2 |

Table 14. GOODS TRANSPORT VEHICLES

b) Capacity by type of vehicle.

Milliers tonnes

| | LORRIES LESS THAN 1.5 t PAYLOAD | | | LORRIES MORE THAN 1.5 t PAYLOAD | | | TRAILERS AND SEMI-TRAILERS | | |
|--------------------------|---------------------------------|--------------|--------------|---------------------------------|---------------|---------------|----------------------------|--------------|--------------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 343 | 412 | 647 | 2 113 | 2 615 | 2 864 | 1 796 | 2 261 | 2 979 |
| Austria | | | | | | | | | |
| Belgium | 36 | 70 | 72 | 422 | 492 | 549 | 221 | 387 | 595 |
| Denmark | | 57 | 88 | | | 327 | | | 217 |
| Spain | 81 | 218 | 425 | 831 | 1 446 | 2 392 | | | |
| Finland | | 27 | 76 | | 273 | 376 | | 82 | 184 |
| France | 316 | 384 | 560 | 1 734 | 2 141 | 3 160 | 1 035 | 1 499 | 2 633 |
| United-Kingdom | | 586 | 578 | | 4 493 | 5 233 | | | |
| Greece | | 43 | | | 217 | | | | |
| Ireland | | | | | | | | | |
| Italy | | | | | | | | | |
| Luxemburg | | | | | | | | | |
| Norway | | 60 | 58 | | 256 | 354 | | | |
| Netherlands | | | 200 | | | 600 | | | |
| Portugal | | | 105 | | | | | | |
| Sweden | | 53 | 75 | | 504 | 551 | 258 | 410 | 536 |
| Switzerland | 45 | 58 | 83 | 202 | 291 | 358 | 117 | 162 | 201 |
| Turkey | | | | | | | | | |
| Yugoslavia | | | | | | | | | |
| TOTAL | 821 | 1 968 | 2 967 | 5 302 | 12 728 | 16 764 | 3 427 | 4 801 | 7 325 |

100

Table 15. FUEL CONSUMPTION BY ROAD VEHICLES

Million Tonnes

| | 1965 | 1970 | 1975 | 1976 | All fuel | 1977 | |
|--------------------------|-------------|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | | | | Petrol | Diesel |
| Germany | 22.1 | 32.1 | 39.5 | 41.6 | 44.1 | 31.9 | 12.2 |
| Austria | | | | | | | |
| Belgium | 2.2 | 3.2 | 3.9 | 4.1 | 4.4 | 3.0 | 1.4 |
| Denmark | | | | | 2.4 | 1.7 | 0.7 |
| Spain | 5.3 | 8.7 | 13.3 | 14 | 14.7 | 9.3 | 5.3 |
| Finland | | 1.7 | 2.2 | 2.2 | 2.2 | 1.3 | 0.9 |
| France | 10.6 | 16.4 | 22.3 | 23.6 | 24.3 | 16.7 | 7.6 |
| United-Kingdom | | 19.3 | 21.5 | 22.5 | 23.0 | 17.3 | 5.7 |
| Greece | | 0.9 | 1.3 | 1.5 | | | |
| Ireland | 0.6 | 0.8 | 1.0 | 1.1 | 1.14 | 0.87 | 0.27 |
| Italy | 8.7 | 12.7 | 15.1 | 16.3 | 17.4 | 10.4 | 7.0 |
| Luxemburg | 0.1 | 0.1 | 0.3 | 0.3 | 0.4 | 0.3 | 0.1 |
| Norway | | 1.4 | 1.6 | 1.8 | 1.9 | 1.2 | 0.7 |
| Netherlands | | | | | | | |
| Portugal | 0.5 | 0.86 | 1.36 | 1.42 | 1.48 | 0.67 | 0.81 |
| Sweden | | 3.8 | 4.1 | 4.1 | 4.4 | 3.2 | 1.2 |
| Switzerland | | 2.6 | 2.9 | 2.9 | 3.0 | 2.5 | 0.5 |
| Turkey | | | | | | | |
| Yugoslavia | | | | | | | |
| TOTAL | 50.1 | 104.56 | 130.36 | 137.42 | 144.82 | 100.34 | 44.38 |

Table 16. LENGTH OF ROAD NETWORK

Kilometres

| | All Roads | | | Motorways | | |
|--------------------------|-----------|--------|--------|-----------|-------|-------|
| | 1965 | 1970 | 1977 | 1965 | 1970 | 1977 |
| Germany | 407751 | 440844 | 472100 | 3372 | 4461 | 6711 |
| Austria | | | | | | |
| Belgium | 11699 | 12109 | 13730 | 310 | 488 | 1102 |
| Denmark | | | 4685 | | | 413 |
| Spain | 133320 | 139395 | 146410 | 54 | 187 | 1291 |
| Finland | 71500 | 71870 | 73763 | 65 | 108 | 194 |
| France | 82200 | 82542 | 29181 | 645 | 1542 | 3637 |
| United Kingdom | 13999 | 14466 | 16089 | 571 | 1057 | 2397 |
| Greece | 7735 | 13000 | | | 65 | |
| Ireland | 15900 | 15980 | | | | |
| Italy | 39068 | 46668 | 50048 | 1736 | 3913 | 5712 |
| Luxembourg | 865 | 872 | 894 | | 7 | 27 |
| Norway | 57156 | 66999 | 72021 | 24 | 79 | 182 |
| Netherlands | | 76990 | | | 873 | 1595 |
| Portugal | 29391 | 30165 | 32505 | 46 | 66 | 74 |
| Sweden | | | | | | |
| Switzerland | 302 | 650 | 1014 | 221 | 377 | 704 |
| Turkey | | | | | | |
| Yugoslavia | 78690 | 91289 | 104466 | | | 201 |
| TOTAL | | | | 7044 | 13223 | 24240 |

Table 17. INTERNATIONAL NETWORK

Existing and proposed length

«E» ROUTES

Kilometres

| | 1965 | 1970 | 1975 | 1976 | 1977 | Proposed |
|--------------------------|-------|-------|-------|-------|-------|----------|
| Germany | 5762 | 6137 | 6119 | 6131 | 6154 | |
| Austria | 1828 | 1784 | 1808 | | | |
| Belgium | 1093 | 1111 | 1073 | 1073 | 1073 | 1,126 |
| Denmark | 886 | 886 | 901 | 901 | 901 | |
| Spain | 5928 | 5928 | 5838 | 6458 | 6442 | 6,269 |
| Finland | | | 2393 | 2393 | 2393 | 2,393 |
| France | 5943 | 5943 | 8339 | | | |
| United-Kingdom | 1651 | 2000 | 2360 | 2444 | | 3,838 |
| Greece | 2742 | 2742 | 3743 | | | |
| Ireland | | | 814 | 822 | 822 | 1,190 |
| Italy | 6402 | 6402 | 6402 | 6402 | 6402 | |
| Luxembourg | 90 | 89 | 90 | 90 | 90 | |
| Norway | 2278 | 3928 | 3935 | 3825 | 3825 | 3,825 |
| Netherlands | 1336 | 1367 | 1348 | 1348 | 1350 | 1,352 |
| Portugal | 1246 | 1246 | 1246 | 1246 | 1246 | 1,436 |
| Sweden | 3362 | 3353 | 3934 | | | |
| Switzerland | 1309 | 1298 | 1298 | 1252 | 1252 | 1,252 |
| Turkey | 5576 | 6838 | 6865 | | | |
| Yugoslavia | 3281 | 3281 | 3281 | 7026 | 7026 | |
| TOTAL | 50713 | 54333 | 61787 | 41411 | 38976 | 22,681 |

Table 18 INLAND WATERWAY GOODS TRANSPORT

a) All Transport

Million Tonne-kilometres

| | 1975 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Germany | 43 552 | 48 813 | 44 991 | 43 969 | 48 480 | 50 972 | 47 565 | 45 804 | 49 254 |
| Belgium | 6 087 | 6 734 | 6 729 | 6 758 | 6 494 | 6 053 | 5 124 | 6 072 | 5 762 |
| Finlande | 3 070 | 4 350 | 4 270 | 4 840 | 4 680 | 4 600 | 4 430 | 4 820 | 5 040 |
| France | 12 510 | 14 183 | 13 773 | 14 156 | 13 792 | 13 738 | 11 905 | 12 156 | 11 266 |
| United Kingdom | 217 | 129 | 100 | 91 | 90 | 73 | 74 | 72 | 72 |
| Italy | — | 350 | 386 | 392 | — | — | — | — | — |
| Luxemburg | — | 300 | 205 | 265 | 294 | 343 | 297 | 279 | 288 |
| Netherlands | 24 071 | 30 764 | 30 428 | 29 333 | 31 997 | 33 196 | 29 597 | 30 954 | 32 127 |
| Switzerland | 133 | 169 | 164 | 163 | 167 | 168 | 132 | 156 | 157 |
| Yugoslavia | 3 313 | 4 384 | 4 240 | 4 595 | 4 850 | 5 527 | 5 461 | 5 572 | 5 796 |

b) Internal Transport : Goods Carried

Million Tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|-----------------------|------|-------|-------|-------|------|------|------|------|------|
| Germany | 98.2 | 102.4 | 99.4 | 97.4 | 97.0 | 92.1 | 78.8 | 82.5 | 79.1 |
| Belgium | 25.8 | 31.2 | 29.4 | 28.1 | 24.9 | 26.1 | 18.5 | 21.9 | 21.7 |
| France | 58.3 | 66.9 | 64.4 | 64.5 | 62.5 | 61.0 | 52.9 | 54.0 | 50.5 |
| United Kingdom | 8.5 | 6.5 | 5.5 | 5.0 | 5.0 | 3.9 | 4.2 | 4.6 | 4.0 |
| Italy | 2.8 | 4.4 | — | 4.1 | — | — | — | — | — |
| Luxemburg | — | — | — | — | — | — | — | — | — |
| Netherlands | 82.2 | 93.0 | 100.8 | 102.7 | 94.8 | 85.9 | 79.5 | 94.1 | 98.0 |
| Switzerland | — | — | — | — | — | — | — | — | — |
| Yugoslavia | 7.0 | 12.5 | 13.5 | 14.7 | 15.1 | 15.6 | 17.7 | 17.6 | 19.9 |

c) International Transport : Goods Loaded

Million Tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|-----------------------|------|------|------|------|------|------|------|------|------|
| Germany | 32.4 | 49.5 | 47.3 | 44.9 | 50.0 | 56.7 | 50.9 | 48.2 | 52.8 |
| Belgium | 18.9 | 20.3 | 21.5 | 23.0 | 29.0 | 28.8 | 24.1 | 31.1 | 33.7 |
| France | 15.1 | 22.2 | 22.6 | 25.3 | 25.9 | 25.8 | 22.3 | 21.0 | 20.1 |
| United Kingdom | — | — | — | — | — | — | 0 | 0.1 | 0.1 |
| Italy | — | — | — | — | — | — | — | — | — |
| Luxemburg | — | 0.5 | — | — | 0.8 | 0.8 | 0.8 | 1.0 | 1.1 |
| Netherlands | 60.4 | 81.4 | 79.5 | 77.8 | 87.3 | 96.0 | 87.7 | 93.8 | 92.7 |
| Switzerland | 0.7 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 |
| Yugoslavia | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.6 |

Table 18 INLAND WATERWAY GOODS TRANSPORT

d) International Transport : Goods Unloaded

Million Tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------|------|------|------|------|------|------|------|------|------|
| Germany | 57.0 | 75.8 | 73.6 | 77.9 | 88.9 | 91.0 | 85.6 | 89.3 | 86.4 |
| Belgium | 27.8 | 35.6 | 39.1 | 39.6 | 42.6 | 46.5 | 37.0 | 42.6 | 41.8 |
| France | 9.3 | 13.3 | 13.1 | 12.7 | 13.0 | 14.3 | 11.5 | 11.4 | 12.0 |
| United Kingdom | — | — | — | — | — | — | 0 | 0 | 0 |
| Italy | — | — | — | — | — | — | — | — | — |
| Luxembourg | — | 0.8 | 0.6 | 0.6 | 0.7 | 1.0 | 1.1 | 0.7 | 0.5 |
| Netherlands | 28.2 | 42.9 | 41.1 | 39.6 | 45.0 | 47.7 | 43.9 | 43.5 | 49.0 |
| Switzerland | 8.0 | 8.6 | 8.0 | 7.7 | 8.2 | 9.1 | 7.9 | 8.0 | 8.6 |
| Yugoslavia | 1.0 | 2.3 | 2.4 | 2.3 | 2.2 | 2.8 | 2.9 | 2.8 | 3.0 |

e) International Transport : Goods in Transit

Million Tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------|------|------|------|------|------|------|------|------|------|
| Germany | 8.1 | 12.3 | 9.7 | 8.3 | 9.9 | 12.2 | 12.0 | 10.0 | 14.2 |
| Belgium | 4.6 | 4.4 | 5.4 | 5.7 | 5.2 | 5.5 | 4.2 | 4.6 | 3.8 |
| France | 7.0 | 8.0 | 6.6 | 6.2 | 7.4 | 8.2 | 7.9 | 7.5 | 8.6 |
| United Kingdom | — | — | — | — | — | — | — | — | — |
| Italy | — | — | — | — | — | — | — | — | — |
| Luxembourg | — | — | — | — | — | 11.5 | 10.3 | 9.4 | — |
| Netherlands | 23.2 | 24.5 | 24.0 | 24.3 | 27.7 | 30.1 | 24.7 | 28.9 | 33.0 |
| Switzerland | — | — | — | — | — | — | — | — | — |
| Yugoslavia | 0.2 | 0.2 | 0.1 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 |

Table 18 bis RHINE TRAFFIC AT THE GERMAN-NETHERLANDS FRONTIER
EMMERICH - LOBITH

Thousand tonnes/Percentage

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--|------|-------|-------|-------|-------|-------|-------|-------|-------|
| All traffic | | | | | | | | | |
| of which : | | | | | | | | | |
| Upstream | 52.5 | 68.6 | 63.4 | 62.2 | 72.9 | 78.7 | 74.7 | 77.0 | 78.8 |
| Downstream | 28.2 | 43.8 | 41.2 | 39.3 | 43.9 | 49.2 | 44.4 | 41.5 | 48.6 |
| TOTAL | 80.7 | 112.4 | 104.6 | 101.5 | 116.8 | 127.9 | 119.1 | 118.5 | 127.4 |
| Push-Tow traffic | | | | | | | | | |
| of which : | | | | | | | | | |
| Upstream | 6.8 | 16.4 | 16.1 | 19.5 | 27.4 | 30.7 | 30.0 | 28.3 | 30.0 |
| Downstream | 0.9 | 4.5 | 4.0 | 4.1 | 5.4 | 6.4 | 5.9 | 5.3 | 7.3 |
| TOTAL | 7.7 | 20.9 | 20.1 | 23.6 | 32.8 | 37.1 | 35.9 | 33.6 | 37.3 |
| Push-Tow traffic as percentage of al traffic | 9.5 | 18.6 | 19.2 | 23.3 | 28.1 | 29.0 | 30.1 | 28.4 | 29.3 |

Table 19 CRAFT IN SERVICE : 1965, 1970, 1972, 1975 - 1977

| | NUMBER | | | | | | CAPACITY (Thousand Tonnes) | | | | | |
|----------------------------------|--------|-------|------|-------|-------|-------|----------------------------|---------|------|---------|---------|---------|
| | 1965 | 1970 | 1972 | 1975 | 1976 | 1977 | 1965 | 1970 | 1972 | 1975 | 1976 | 1977 |
| a) Self Propelled Craft | | | | | | | | | | | | |
| Germany | 5 664 | 5 190 | — | 3 967 | 3 800 | 3 658 | — | 3 447.8 | — | 3 245.5 | 3 145.7 | 3 057.9 |
| Belgium | 5 212 | 4 843 | — | 3 916 | 3 628 | 3 368 | 2 234.4 | 2 244.3 | — | 2 056.6 | 1 968.7 | 1 842.8 |
| France | 5 961 | 5 583 | — | 5 125 | 4 751 | 4 504 | 2 211.5 | 2 124.3 | — | 1 960.3 | 1 835.0 | 1 756.3 |
| United Kingdom | — | — | — | — | 3 | 3 | — | — | — | — | 0.6 | 0.6 |
| Italy (1) | 645 | 431 | 434 | — | — | — | 60.6 | 60.7 | 60.9 | — | — | — |
| Luxemburg | — | — | — | 17 | 19 | — | — | — | — | 9.8 | 11.1 | — |
| Netherlands | 9 309 | 7 807 | — | 6 700 | 6 416 | 6 052 | 3 180 | 3 297 | — | 3 751 | 3 739 | 3 666 |
| Switzerland | 371 | 333 | — | 321 | 301 | 290 | 337.5 | 334.2 | — | 397.9 | 388.5 | 382.3 |
| Yugoslavia | 21 | 21 | — | 29 | 29 | 32 | 9 | 7 | — | 14 | 14 | 17 |
| b) Dumb and Pushed Barges | | | | | | | | | | | | |
| Germany | 1 853 | 1 146 | — | 819 | 813 | 774 | 1 559.2 | 1 076.2 | — | 9 760.0 | 989.7 | 962.4 |
| Belgium | 689 | 455 | — | 266 | 229 | 206 | 520.3 | 370.4 | — | 265.2 | 227.5 | 220.3 |
| France | 3 727 | 1 591 | — | 1 438 | 1 348 | 1 314 | 1 401.4 | 869.8 | — | 980.0 | 967.6 | 950.5 |
| United Kingdom | — | — | — | — | 31 | 31 | — | — | — | — | 10.4 | 10.4 |
| Italy (1) | — | 393 | 381 | — | — | — | 98.7 | 67.9 | 67.8 | — | — | — |
| Luxemburg | — | — | — | — | — | — | — | — | — | — | — | — |
| Netherlands | 2 384 | 1 523 | — | 1 173 | 1 099 | 976 | 1 915 | 1 600 | — | 1 401 | 1 365 | 1 256 |
| Switzerland | 87 | 82 | — | 103 | 99 | 86 | 115.8 | 116.5 | — | 177.1 | 169.1 | 148.1 |
| Yugoslavia | 729 | 839 | — | 887 | 881 | 870 | 481 | 615 | — | 605 | 699 | 696 |

(1) Last figures 1972.

Table 19 CRAFT IN SERVICE : 1965, 1970, 1972, 1977

| | NUMBER | | | | | | CAPACITY (Thousand HP/CV) | | | | | |
|----------------------------|--------|-------|------|-------|-------|-------|---------------------------|-------|------|-------|-------|-------|
| | 1965 | 1970 | 1972 | 1975 | 1976 | 1977 | 1965 | 1970 | 1972 | 1975 | 1976 | 1977 |
| c) Tugs and Pushers | | | | | | | | | | | | |
| Germany | 687 | 448 | — | 387 | 390 | 381 | 2614 | 183.4 | — | 313.0 | 212.0 | 209.2 |
| Belgium | 169 | 247 | — | 284 | 288 | 288 | 24.1 | 40.5 | — | 57.6 | 60.6 | 60.1 |
| France | 520 | 207 | — | 231 | 241 | 241 | 164.1 | 119.9 | — | 159.4 | 172.5 | 172.5 |
| United Kingdom | — | — | — | — | 16 | 16 | — | — | — | — | 4.2 | 4.2 |
| Italy (1) | 123 | 124 | 115 | — | — | — | 8.2 | 8.2 | 7.8 | — | — | — |
| Luxemburg | — | — | — | — | — | — | — | — | — | — | — | — |
| Netherlands Tugs | 2 239 | 2 034 | — | 2 002 | 1 974 | 1 958 | 408 | 398 | — | 363 | 377 | 373 |
| Pushers | 23 | 44 | — | 103 | 113 | 122 | 18 | 42 | — | 110 | 114 | 117 |
| Switzerland | 21 | 14 | — | 19 | 19 | 19 | 30.7 | 17.1 | — | 18.6 | 18.0 | 18.4 |
| Yugoslavia | 240 | 260 | — | 268 | 266 | 267 | 72 | 75 | — | 10.4 | 10.5 | 10.5 |

(1) Last figures 1972.

Table 19 bis CRAFT IN SERVICE : BY AGE : 1977

| | NUMBER | | | CAPACITY (Thousand Tonnes) | | |
|----------------------------------|----------|-------------|--------------|----------------------------|-------------|--------------|
| | Pre 1950 | 1950 - 1969 | 1970 Onwards | Pre 1950 | 1950 - 1969 | 1970 Onwards |
| a) Self Propelled Craft | | | | | | |
| Germany (1). . . . | 2 222 | 1 220 | 358 | 1 415.8 | 1 212.3 | 517.6 |
| Belgium. | | | | | | |
| France. | | | | | | |
| United Kingdom . | — | 3 | — | — | 0.55 | — |
| Italy | | | | | | |
| Luxembourg. . . . | | | | | | |
| Netherlands | 3 757 | 2 116 | 179 | 1 805 | 1 574 | 287 |
| Switzerland | 67 | 162 | 61 | 71.7 | 188.4 | 122.2 |
| Yugoslavia | 12 | 8 | 12 | 4.0 | 2.6 | 10.9 |
| b) Dumb and Pushed Barges | | | | | | |
| Germany (1). . . . | 425 | 177 | 211 | 352.3 | 222.2 | 415.2 |
| Belgium. | | | | | | |
| France. | | | | | | |
| United Kingdom . | — | 17 | 14 | — | 7.0 | 3.42 |
| Italy | | | | | | |
| Luxembourg. . . . | | | | | | |
| Netherlands | 548 | 197 | 231 | 594 | 310 | 351 |
| Switzerland | 24 | 22 | 40 | 35.1 | 32.0 | 81.1 |
| Yugoslavia | 311 | 417 | 142 | 190.0 | 355.6 | 150.5 |

| | NUMBER | | | CAPACITY (Thousand HP/CV) | | |
|----------------------------|----------|-------------|--------------|---------------------------|-------------|--------------|
| | Pre 1950 | 1950 - 1969 | 1970 Onwards | Pre 1950 | 1950 - 1969 | 1970 Onwards |
| c) Tugs and Pushers | | | | | | |
| Germany (1). . . . | 32 | 28 | 36 | 14.8 | 28.8 | 69.8 |
| Belgium. | | | | | | |
| France. | | | | | | |
| United Kingdom . | 1 | 7 | 2 | 0.35 | 1.515 | 0.6 |
| Italy | | | | | | |
| Luxembourg. . . . | | | | | | |
| Netherlands | 1 417 | 538 | 125 | 254 | 155 | 81 |
| Switzerland | 4 | 9 | 6 | 2.2 | 6.9 | 9.3 |
| Yugoslavia | 77 | 148 | 42 | 17.5 | 50.5 | 28.7 |

(1) 1.1.77.

Table 19 ter CRAFT IN SERVICE : BY CARGO CAPACITY : 1977

| NUMBER | | | | | | | CAPACITY (Thousand tonnes) | | | | | |
|----------------------------------|-----|-------|-------|-------|-------|-----|----------------------------|-------|-------|-------|---------|-------|
| CLASSE (1) | | | | | | | | | | | | |
| | 0 | I | II | III | IV | V | 0 | I | II | III | IV | V |
| a) Self Propelled Craft | | | | | | | | | | | | |
| Germany (2) | 290 | 452 | 651 | 1 111 | 1 104 | 192 | 41.1 | 148.0 | 338.0 | 922.7 | 1 360.0 | 335.8 |
| Belgium | | | | | | | | | | | | |
| France | | | | | | | | | | | | |
| United Kingdom | | | | | | | | | | | | |
| Italy | | | | | | | | | | | | |
| Luxembourg | | | | | | | | | | | | |
| Netherlands | 743 | 1 597 | 1 702 | 1 286 | 532 | 192 | 131 | 529 | 891 | 1 063 | 658 | 394 |
| Switzerland | — | 2 | 6 | 84 | 107 | 91 | — | 0.6 | 3.3 | 73.2 | 132.5 | 172.8 |
| Yugoslavia | | | | | | | | | | | | |
| b) Dumb and Pushed barges | | | | | | | | | | | | |
| Germany | 66 | 62 | 111 | 164 | 143 | 267 | 9.7 | 20.1 | 56.1 | 138.1 | 187.3 | 578.3 |
| Belgium | | | | | | | | | | | | |
| France | | | | | | | | | | | | |
| Luxembourg | | | | | | | | | | | | |
| Netherlands | 68 | 149 | 89 | 136 | 187 | 347 | 9 | 55 | 48 | 116 | 243 | 784 |
| Switzerland | | | | | | | — | — | — | 22.1 | 24.4 | 101.6 |

(1) Class : 0 : <250 t.
 I : 251 - 400 t.
 II : 401 - 650 t.
 III : 651 - 1 000 t.
 IV : 1 001 - 1 560 t.
 V : >1 500 t.

(2) 1.1.1977.

Table 20 PIPELINES

a) Length (1) in Service

Kilometres

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Germany | 1 070 | 2 058 | 2 058 | 2 086 | 2 086 | 2 086 | 2 086 | 2 086 | 2 086 |
| Belgium | — | 50 | 317 | 317 | 317 | 317 | 317 | 317 | 317 |
| Spain | 267 | 1 099 | 1 099 | 1 099 | 1 099 | 1 099 | 1 099 | 1 306 | 1 306 |
| France | 1 646 | 3 533 | 4 631 | 4 743 | 4 903 | 5 212 | 5 222 | 5 222 | 5 222 |
| Italy | 1 222 | 1 860 | 2 096 | 2 247 | 2 247 | 2 615 | 3 044 | 3 907 | — |
| United kingdom | 830 | 1 634 | 1 695 | 1 583 | 2 417 | 2 446 | 2 658 | 2 665 | 2 827 |
| Netherlands (1) . . | 153 | 323 | 391 | 391 | 391 | 391 | 391 | 391 | 391 |
| Switzerland | 60 | 222 | 222 | 222 | 238 | 238 | 239 | 239 | 239 |
| Yugoslavia | — | — | — | 151 | 151 | 151 | 151 | 151 | 151 |

(1) Excluding pipelines less than 50 kms
in length and military pipelines.

(1) International only.

601

b) Tonnes carried by Type of Traffic, 1977

Thousand

| | INTERNAL | IMPORTS | EXPORTS | TRANSIT | ALL TRAFFIC |
|------------------------|----------|---------|---------|---------|-------------|
| Germany | 20 700 | 63 700 | — | — | 84 400 |
| Belgium | — | — | — | — | — |
| Spain | 7 952 | — | — | — | 7 952 |
| France | 82 328 | 83 290 | 962 | 22 519 | 105 819 |
| Italy | 73 433 | — | 28 778 | — | 102 211 |
| United Kingdom | 42 033 | — | — | — | 42 033 |
| Netherlands | — | — | — | — | — |
| Switzerland | — | 6 079 | — | 7 046 | 13 125 |
| Yugoslavia | 1 652 | — | — | — | — |

Table 20 PIPELINES (cont.)

c) Tonne - kilometres by Type of traffic, 1977

Million

| | INTERNAL | IMPORTS | EXPORTS | TRANSIT | ALL TRAFFIC |
|---------------------------|----------|---------|---------|---------|-------------|
| Germany | | | | | |
| Belgium | | | | | |
| France | 18 688 | 19 281 | 593 | 13 023 | 32 304 |
| United Kingdom | 8 134 | — | — | — | — |
| Italy | — | — | — | — | — |
| Luxembourg | — | — | — | — | — |
| Netherlands (1) | — | — | 5 345 | — | 5 345 |
| Spain | 2 548 | — | — | — | 2 548 |
| Switzerland | — | 267 | — | 911 | 1 178 |
| Yugoslavia | 143 | — | — | — | — |

(1) Internal only.

d) Tonne - kilometres, 1965, 1970 - 1977

Million

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|---------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Germany | 8 900 | 16 900 | 18 300 | 18 700 | 19 200 | 16 900 | 14 600 | 15 100 | 14 500 |
| Belgium | — | 270 | 521 | 1 554 | 1 710 | 1 472 | 1 535 | 1 524 | 1 756 |
| Spain | 109 ⁽¹⁾ | 1 022 | 1 296 | 1 607 | 2 054 | 2 293 | 2 119 | 2 737 | 2 548 |
| France | 20 728 | 28 184 | 29 908 | 32 470 | 37 503 | 36 164 | 31 095 | 35 335 | 32 304 |
| United Kingdom | 1 299 | 2 665 | 3 063 | 3 011 | 4 287 | 4 784 | 5 417 | 5 182 | 8 134 |
| Italy | 1 763 | 9 000 | 10 178 | 10 766 | 12 079 | 10 892 | 10 581 | 10 406 | — |
| Luxembourg | — | — | — | — | — | — | — | — | — |
| Netherlands (1) | 1 570 | 4 075 | 4 599 | 5 704 | 5 933 | 4 459 | 4 450 | 5 005 | 5 345 |
| Switzerland | 73 | 1 205 | 1 232 | 1 120 | 1 227 | 1 110 | 1 251 | 1 335 | 1 178 |
| Yugoslavia | — | — | 19 | 100 | 93 | 111 | 110 | 128 | 143 |

(1) Concerning the first civil Spanish pipeline inaugurated on 21 - IX - 1965.

(1) Netherlands : International only.

Table 21 INTERNATIONAL TRAFFIC THROUGH SEAPORTS

Million tonnes

| | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| a) Goods Loaded | | | | | | | | | |
| Germany (1) | 17.8 | 22.5 | 21.0 | 22.5 | 27.8 | 35.5 | 27.9 | 29.0 | 32.3 |
| Belgium | 21.3 | 29.2 | 28.9 | 34.0 | 36.8 | 40.1 | 35.3 | 33.7 | 38.7 |
| Ireland (3) | — | 14.1 | 13.3 | 15.9 | 20.0 | 19.6 | 11.8 | 7.5 | . |
| Finland (2) | 10.2 | 12.4 | 11.2 | 11.9 | 12.8 | 11.4 | 8.2 | 12.0 | 14.1 |
| Spain | 10.4 | 15.0 | 15.0 | 16.0 | 16.0 | 17.0 | 16.0 | 21.0 | 25.0 |
| France | 19.5 | 25.2 | 25.9 | 29.9 | 30.2 | 40.8 | 40.8 | 43.1 | 43.1 |
| United Kingdom | 35.1 | 48.0 | 48.7 | 49.7 | 53.5 | 51.1 | 50.2 | 62.8 | 77.6 |
| Italy | 24.0 | 34.8 | 34.9 | 37.2 | 37.0 | 35.8 | 29.4 | 31.0 | 36.4 |
| Norway | 27.3 | 35.4 | 34.6 | 37.5 | 41.7 | 40.4 | 36.6 | 34.2 | 30.2 |
| Netherlands | 29.3 | 63.9 | 67.7 | 77.2 | 88.1 | 85.1 | 80.8 | 82.5 | 77.0 |
| Portugal | 3.4 | 3.7 | 3.5 | 3.6 | 3.8 | 4.0 | 2.9 | 3.1 | 3.0 |
| Sweden (4) | 20.8 | 26.0 | 24.7 | 26.2 | 32.9 | 34.1 | 26.6 | 25.7 | 24.1 |
| Yugoslavia | 1.4 | 3.8 | 3.3 | 3.2 | 3.9 | 4.0 | 3.5 | 4.0 | 4.7 |
| Greece | 2.7 | 4.2 | 4.4 | 5.9 | 8.8 | 12.2 | 14.3 | 13.2 | 14.6 |
| b) Goods Unloaded | | | | | | | | | |
| Germany (1) | 78.9 | 106.3 | 101.8 | 102.0 | 110.2 | 115.1 | 98.9 | 110.4 | 104.1 |
| Belgium | 44.1 | 71.0 | 63.8 | 56.1 | 6.4 | 63.7 | 50.4 | 60.1 | 57.7 |
| Ireland (3) | — | 21.5 | 20.8 | 23.0 | 29.2 | 28.3 | 18.5 | 15.6 | — |
| Finland (2) | 13.9 | 20.2 | 20.5 | 21.8 | 24.4 | 25.3 | 23.2 | 23.3 | 25.6 |
| Spain | 35.1 | 52.0 | 57.0 | 64.0 | 69.0 | 74.0 | 73.0 | 82.0 | 77.0 |
| France | 109.6 | 168.8 | 175.5 | 191.3 | 187.9 | 226.7 | 194.8 | 232.6 | 214.3 |
| United Kingdom | 159.4 | 196.2 | 202.0 | 205.0 | 219.5 | 211.1 | 175.3 | 180.0 | 158.2 |
| Italy | 114.3 | 200.9 | 209.9 | 221.9 | 237.3 | 225.2 | 198.9 | 217.9 | 217.6 |
| Norway | 13.7 | 20.8 | 19.1 | 20.4 | 22.3 | 22.6 | 20.0 | 21.9 | 21.9 |
| Netherlands | 118.1 | 202.7 | 208.9 | 232.8 | 261.8 | 250.9 | 242.6 | 255.8 | 248.1 |
| Portugal | 6.0 | 8.9 | 9.8 | 10.6 | 11.5 | 13.5 | 11.7 | 13.3 | 14.4 |
| Sweden (4) | 31.9 | 46.4 | 42.6 | 42.4 | 45.5 | 49.2 | 45.8 | 48.6 | 46.6 |
| Yugoslavia | 2.2 | 11.6 | 12.7 | 11.5 | 12.3 | 14.9 | 14.0 | 16.2 | 16.5 |
| Greece | 8.9 | 13.4 | 14.2 | 17.8 | 25.3 | 25.3 | 23.0 | 25.9 | 24.1 |

(1) Transport to DDR included.

(2) Inland port included (0.1 - 0.2 million tonnes).

(3) Includes oil transshipment. Recent decrease is due to decline in transshipments of crude oil at Bantry Bay terminal.

(4) Excl. goods on ferries.

Table 21 bis TRAFFIC AT SELECTED MAJOR SEAPORTS
Goods Loaded and Unloaded

| | | Million tonnes | | | | | | | | |
|----|-------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1965 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
| B | Antwerpen | 59.4 | 80.7 | 73.3 | 66.7 | 71.5 | 75.9 | 60.5 | 66.1 | 79.0 |
| | Gent | 3.2 | 10.2 | 10.4 | 17.2 | 14.7 | 15.1 | 14.3 | 15.1 | 14.4 |
| D | Bremen | 12.7 | 15.5 | 15.0 | 15.8 | 16.1 | 16.2 | 13.7 | 14.3 | 14.5 |
| | Hamburg | 35.2 | 46.8 | 45.0 | 45.9 | 49.3 | 51.7 | 47.5 | 51.5 | 52.6 |
| E | Algeciras | 0.5 | 8.2 | 8.6 | 9.2 | 10.1 | 11.7 | 11.1 | 12.8 | 12.1 |
| | Barcelona | 6.7 | 8.1 | 9.3 | 10.3 | 11.4 | 11.8 | 11.7 | 13.4 | 15.2 |
| | Bilbao | 6.7 | 11.2 | 11.4 | 13.8 | 18.7 | 19.5 | 18.7 | 19.6 | 18.5 |
| | Cartagena | 10.4 | 15.8 | 15.8 | 16.6 | 16.5 | 15.9 | 14.4 | 13.6 | 13.6 |
| | Gijon | 3.3 | 6.1 | 6.4 | 8.3 | 10.6 | 12.0 | 12.3 | 13.2 | 11.9 |
| | Huelva | 3.0 | 8.6 | 9.7 | 9.0 | 9.1 | 10.6 | 10.8 | 10.3 | 11.7 |
| | S.C. Tenerife | 12.5 | 14.3 | 15.0 | 15.2 | 14.1 | 14.8 | 12.5 | 13.2 | 14.4 |
| | Tarragona | 2.2 | 4.4 | 5.0 | 5.3 | 6.0 | 6.6 | 8.1 | 15.9 | 16.1 |
| F | Bordeaux | 7.3 | 11.5 | 13.4 | 14.4 | 14.0 | 13.9 | 11.6 | 12.4 | 11.6 |
| | Dunkerque | 16.3 | 26.2 | 26.1 | 28.2 | 32.2 | 35.2 | 30.6 | 34.3 | 33.6 |
| | Le Havre | 28.0 | 59.8 | 61.6 | 66.4 | 89.0 | 86.3 | 73.9 | 81.8 | 80.0 |
| | Marseille | 57.0 | 73.4 | 77.0 | 84.4 | 101.7 | 111.1 | 97.5 | 106.7 | 100.5 |
| | | 8.6 | 9.3 | 9.9 | 11.8 | 14.3 | 13.1 | 13.2 | 13.1 | 13.2 |
| GB | Immingham | | 22.0 | 16.9 | 18.8 | 23.5 | 21.2 | 20.5 | 22.4 | 22.5 |
| | Liverpool | | 29.3 | 31.8 | 27.0 | 27.3 | 27.8 | 23.7 | 22.2 | 17.7 |
| | Southampton | | 27.6 | 28.0 | 29.0 | 29.1 | 27.5 | 24.5 | 26.6 | 23.7 |
| | Tees and | | 22.6 | 22.2 | 22.7 | 26.0 | 25.0 | 20.1 | 30.5 | 28.2 |
| | Hartlepool | | | | | | | | | |
| I | Genoa | 31.7 | 52.6 | 54.6 | 56.4 | 59.4 | 59.1 | 46.9 | 48.7 | |
| | Triest | 44.2 | 27.4 | 33.8 | 35.8 | 37.5 | 33.7 | 31.9 | 35.4 | |
| | Venetia | 14.6 | 24.7 | 23.5 | 24.2 | 25.1 | 24.3 | 21.9 | 23.7 | |
| NL | Amsterdam | 13.2 | 21.4 | 24.1 | 21.0 | 21.4 | 18.2 | 18.4 | 18.0 | 16.8 |
| | Rotterdam | 116.1 | 225.6 | 232.8 | 268.5 | 309.8 | 267.1 | 272.9 | 277.8 | 269.9 |
| P | Lisboa | 7.7 | 9.0 | 9.6 | 10.5 | 10.9 | 11.8 | 9.8 | 1.2 | 1.3 |
| | Leixos | 2.2 | 5.9 | 5.8 | 5.7 | 60.1 | 8.6 | 7.7 | 9.0 | 9.8 |

INLAND TRANSPORT INVESTMENT - EQUIPMENT AND INFRASTRUCTURE

National currency Unit (million)

| COUNTRY | YEAR | GROSS NATIONAL PRODUCTION PURCHASES VALUES (*) | GROSS FIXED CAPITAL FORMATION (*) | RAILWAYS | | | LOCAL RAILWAYS AND URBAN LINES | ROAD TRANSPORT | | | | INLAND WATERWAYS | | | INVESTMENT IN INLAND TRANSPORT (5 + 6 + 10 + 13) |
|---------|------|--|-----------------------------------|---------------|-----------------|---------------|--------------------------------|------------------|----------------|-----------------|-------------------|------------------|-----------------|-----------------|--|
| | | | | ROLLING STOCK | INFRA-STRUCTURE | TOTAL (3 + 4) | | VEHICLES | | INFRA-STRUCTURE | TOTAL (7 + 8 + 9) | VESSELS | INFRA-STRUCTURE | TOTAL (11 + 12) | |
| | | | | | | | | COMMER. VEHICLES | OTHER VEHICLES | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Germany | 1975 | 1 030 020 | 214 540 | 1 137 | 2 738 | 3 875 | 1 559 | 6 101 | 21 259 | 14 553 | 41 913 | 80 | 662 | 742 | 48 089 |
| | 1976 | 1 119 380 | 231 890 | 955 | 2 931 | 3 886 | 1 646 | 6 770 | 24 975 | 13 741 | 45 486 | 78 | 599 | 677 | 51 695 |
| | 1977 | 1 193 500 | 249 140 | 1 029 | 2 985 | 4 014 | 1 657 | 7 763 | 29 746 | ... | ... | 54 | 621 | 675 | ... |
| Austria | 1975 | 654 420 | 174 490 | 4 372 | 5 430 | 9 802 | 10 576 | 5 093 | 53 086 | 29 495 | 87 674 | 757 | 4 261 | 5 018 | 113 070 |
| | 1976 | 728 720 | 189 260 | 5 944 | 6 177 | 12 121 | 4 412 | 6 186 | 67 837 | 34 246 | 108 269 | 859 | 3 625 | 4 484 | 129 286 |
| | 1977 | 790 500 | 213 840 | 6 169 | 7 714 | 13 883 | 6 160 | 7 046 | 74 424 | 33 751 | 115 221 | 932 | 4 659 | 5 591 | 140 855 |
| Belgium | 1975 | 2 289 400 | 502 600 | | | | | | | | | | | | |
| | 1976 | 2 621 718 | 569 514 | | | | | | | | | | | | |
| | 1977 | 2 828 796 | 602 781 | | | | | | | | | | | | |
| Denmark | 1975 | 203 781 | 40 346 | 253 | 107 | 360 | 142 | 1 649 | 4 761 | 1 900 | 8 310 | - | - | - | 8 812 |
| | 1976 | 232 894 | 50 164 | 205 | 175 | 380 | 147 | 2 926 | 7 195 | 1 861 | 11 982 | - | - | - | 12 509 |
| | 1977 | 276 243 | 64 427 | 155 | 141 | 296 | 152 | 2 791 | 7 236 | 2 372 | 12 399 | - | - | - | 12 847 |
| Spain | 1975 | 5 909 700 | 1 425 900 | 3 381 | 24 671 | 28 052 | 7 494 | 49 581 | 126 659 | 54 690 | 230 930 | - | - | - | 238 424 |
| | 1976 | 6 999 400 | 1 605 600 | 2 076 | 20 701 | 22 777 | 7 578 | 61 024 | 181 666 | 63 803 | 306 493 | - | - | - | 336 848 |
| | 1977 | 8 782 900 | 1 998 000 | 4 653 | 24 804 | 29 457 | ... | ... | ... | 79 629 | ... | - | - | - | ... |
| Finland | 1975 | 97 961 | 30 162 | 257 | 404 | 661 | 70 | 1 407 | 2 540 | 1 146 | 5 093 | ... | 18 | | |
| | 1976 | 110 122 | 30 156 | 264 | 462 | 726 | 86 | 1 506 | 2 738 | 1 215 | 5 459 | ... | 21 | | |
| | 1977 | 121 633 | 32 404 | 303 | 447 | 750 | 114 | 1 428 | 2 891 | 1 200 | 5 519 | ... | 17 | | |
| France | 1975 | 1 437 150 | 335 440 | 2 076 | 1 917 | 3 993 | - | 9 664 | 30 917 | 17 034 | 57 615 | ... | 457 | | |
| | 1976 | 1 657 370 | 382 290 | 2 263 | 2 323 | 4 586 | - | 16 048 | 45 993 | 15 705 | 77 746 | ... | 509 | | |
| | 1977 | - | - | 2 718 | 2 722 | 5 440 | - | 17 633 | 49 544 | 12 120 | 79 297 | 17 741 | 501 | 18 242 | 102 979 |
| Greece | 1975 | 673 430 | 140 170 | | | | | | | | | | | | |
| | 1976 | 813 691 | 175 040 | | | | | | | | | | | | |
| | 1977 | 951 850 | 223 000 | | | | | | | | | | | | |
| Ireland | 1975 | 3 621 | 847 | | | | | | | | | | | | |
| | 1976 | 4 416 | 1 080 | | | | | | | | | | | | |
| | 1977 | | | | | | | | | | | | | | |
| Italy | 1975 | 114 215 000 | 22 831 000 | 114 641 | 200 234 | 314 875 | 33 550 | 844 470 | 3 605 690 | 949 | 3 451 109 | 426 | 3 000 | 3 426 | 3 802 960 |
| | 1976 | 143 849 000 | 28 730 000 | 219 791 | 238 261 | 458 052 | 26 200 | 1 245 010 | 4 235 200 | 645 | 5 480 855 | 1 843 | 638 | 2 481 | 5 967 588 |
| | 1977 | 172 988 000 | 34 193 000 | 313 816 | 290 268 | 604 084 | - | ... | ... | ... | ... | ... | ... | ... | ... |

National currency Unit (million)

| COUNTRY | YEAR | GROSS NATIONAL PRODUCTION PURCHASES VALUES (*) | GROSS FIXED CAPITAL FORMATION (*) | RAILWAYS | | | LOCAL RAILWAYS AND URBAN LINES | ROAD TRANSPORT | | | | INLAND WATERWAYS | | | INVESTMENT IN INLAND TRANSPORT (5 + 6 + 10 + 13) |
|----------------|------|--|-----------------------------------|---------------|-----------------|---------------|--------------------------------|------------------|----------------|-----------------|-------------------|------------------|-----------------|-----------------|--|
| | | | | ROLLING STOCK | INFRA-STRUCTURE | TOTAL (3 + 4) | | VEHICLES | | INFRA-STRUCTURE | TOTAL (7 + 8 + 9) | VESSELS | INFRA-STRUCTURE | TOTAL (11 + 12) | |
| | | | | | | | | COMMER. VEHICLES | OTHER VEHICLES | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Luxemburg | 1975 | 80 800 | 23 575 | 164 | 111 | 275 | — | | | — | | | — | | |
| | 1976 | 86 500 | 24 400 | 97 | 127 | 224 | — | | | — | | | — | | |
| | 1977 | | | 122 | 217 | 339 | — | | | 2 251 | | — | 3 400 | 3 400 | |
| Norway | 1975 | 148 237 | 50 766 | 110 | 244 | 354 | 83 | 1 628 | 3 575 | 2 277 | 7 480 | — | — | — | 7 917 |
| | 1976 | 170 709 | 62 000 | 131 | 268 | 399 | 79 | 2 101 | 4 889 | 2 509 | 9 499 | — | — | — | 9 977 |
| | 1977 | 190 417 | 70 558 | 142 | 336 | 478 | 59 | 2 507 | 6 460 | 2 863 | 11 830 | — | — | — | 12 367 |
| Netherlands | 1975 | 208 930 | 43 960 | 52 | 347 | 399 | 300 | 7 386 | 5 989 | 2 744 | 16 119 | 104 | 216 | 320 | 17 138 |
| | 1976 | 237 990 | 46 410 | 73 | 370 | 443 | 323 | 8 503 | 6 769 | 2 781 | 18 053 | 91 | 219 | 310 | 19 129 |
| | 1977 | 261 120 | 55 110 | 109 | 465 | 574 | 930 | 10 896 | 8 561 | 2 538 | 21 995 | 111 | 177 | 288 | 23 787 |
| Portugal | 1975 | 376 736 | 73 992 | 704 | 1 861 | 2 565 | 315 | 547 | 1 979 | 2 196 | 4 722 | 65 | — | 65 | 7 667 |
| | 1976 | 464 677 | 78 784 | 377 | 802 | 1 179 | 387 | 830 | 1 510 | 2 711 | 5 051 | 39 | — | 39 | 6 656 |
| | 1977 | | | 1 412 | 1 109 | 2 521 | 352 | ... | 669 | ... | ... | ... | — | ... | ... |
| United-Kingdom | 1975 | 103 139 | 20 597 | 68 | 110 | 178 | 35 | 820 | 2 213 | 835 | 3 868 | 53 | 102 | 155 | 4 236 |
| | 1976 | 121 978 | 23 414 | 95 | 110 | 1 005 | 37 | 1 133 | 2 852 | 834 | 4 819 | 235 | 80 | 315 | 6 176 |
| | 1977 | 140 074 | 25 387 | 88 | 150 | 230 | 30 | 1 496 | 3 451 | 696 | 5 643 | 108 | ... | ... | ... |
| Sweden | 1975 | 286 477 | 60 437 | 274 | 181 | 455 | 177 | 1 867 | 8 222 | 2 598 | 12 687 | — | — | — | 13 319 |
| | 1976 | 323 291 | 66 301 | 380 | 200 | 580 | 132 | 2 396 | 9 824 | 2 764 | 14 984 | — | — | — | 15 696 |
| | 1977 | 351 511 | 71 403 | 349 | 247 | 596 | 122 | 2 631 | 8 287 | 2 685 | 13 603 | — | — | — | 14 321 |
| Switzerland | 1975 | 139 920 | 33 655 | 246 | 534 | 780 | 73 | 404 | 3 068 | 2 089 | 5 561 | — | 30 | 30 | 6 444 |
| | 1976 | 141 960 | 29 435 | 297 | 467 | 764 | 108 | 396 | 3 444 | 2 150 | 5 900 | — | 30 | 30 | 6 892 |
| | 1977 | 145 630 | 30 350 | 224 | 510 | 734 | 104 | 427 | 4 209 | 2 062 | 6 698 | — | 33 | 33 | 7 569 |
| Turkey | 1975 | 514 984 | 66 040 | | | | | | | | | | | | |
| | 1976 | | | | | | | | | | | | | | |
| | 1977 | | | | | | | | | | | | | | |
| Yugoslavia | 1975 | 472 700 | 117 400 | 1 262 | 2 373 | 3 635 | 76 | 15 330 | | 3 001 | 18 331 | 82 | — | 82 | 22 124 |
| | 1976 | | | 2 728 | 2 040 | 4 768 | 85 | 20 161 | | 7 100 | 27 261 | 82 | — | 82 | 32 196 |
| | 1977 | | | 2 640 | 4 100 | 6 740 | 102 | 26 127 | | 7 900 | 34 027 | 105 | — | 105 | 40 974 |

* Source : Bulletin statistiques de l'OCDE
 ** Chiffres provisoires
 — Néant
 ... Chiffres non disponibles.

ANNEX

**INTRA-EUROPEAN CIVIL AIR TRANSPORT
OF ECAC STATES
TRAFFIC STATISTICS**

(Contributed by the ECAC Secretariat)

INTRA-EUROPEAN CIVIL AIR TRANSPORT OF ECAC STATES ^(a)
ESTIMATED SCHEDULED AND NON-SCHEDULED TRAFFIC
(Domestic and International) 1977

| | | DOMESTIC SCHEDULED TRAFFIC | INTERNATIONAL TRAFFIC | | | TOTAL SCHEDULED TRAFFIC (DOMESTIC AND INTERNATIONAL) | TOTAL ALL TRAFFIC | |
|---------------------------------------|-----------------|----------------------------------|-----------------------|------------------|-----------------|--|-------------------------|-----|
| | | | SCHEDULED | NON SCHEDULED | TOTAL | | | |
| | | (1) | (2) | (3) | (4) = (2) + (3) | (5) = (1) + (2) | (6) = (1) + (4) | |
| Number of passengers | Thousands | 46 794 | 34 452 | 24 766 | 59 218 | 81 246 | 106 012 | |
| | % of total | — | 58.2 % | 41.8 % | 100 % | — | — | |
| | - international | 57.6 % | 42.4 % | — | — | 100 % | — | |
| | - Scheduled | 44.1 % | 32.5 % | 23.4 % | — | — | 100 % | |
| Number of passenger- kilometres | Millions | 19 382 | 28 603 | 38 437 | 67 040 | 47 985 | 86 422 | |
| | % of total | — | 42.7 % | 57.3 % | 100 % | — | — | |
| | - international | 40.4 % | 59.6 % | — | — | 100 % | — | |
| | - scheduled | 22.4 % | 33.1 % | 44.5 % | — | — | 100 % | |
| C | Freight | Millions of tonne- kilometres | 175.3 | 458.4 | N/A | N/A | 633.7 | N/A |
| | | % of total scheduled | 27.7 % | 72.3 % | — | — | 100 % | |
| A | Mail | Millions of tonne- kilometres | 49.5 | 58.1 | N/A | N/A | 107.6 | N/A |
| | | % of total scheduled | 46.0 % | 54.0 % | — | — | 100 % | |
| O | Total | Millions of tonne- kilometres | 224.8 | 516.5 | N/A | N/A | 741.3 | N/A |
| | | % of total scheduled | 30.3 % | 69.7 % | — | — | 100 % | |

(a) including Yugoslavia, which joined ECAC during 1977.

PERCENTAGE CHANGES 77/76, 76/75, 75/74, 74/73, 73/72 ET 72/71^(b)

| | | DOMESTIC SCHEDULED TRAFFIC | INTERNATIONAL TRAFFIC | | TOTAL | TOTAL SCHEDULED TRAFFIC (Domestic and International) | TOTAL ALL TRAFFIC | |
|--------------------------------|---------|----------------------------|-----------------------|-------------------|----------|--|-------------------|-----|
| | | (1) | SCHEDULED (2) | NON SCHEDULED (3) | (4) | (5) | (6) | |
| Number of passengers | 77/76 | + 5.1 % | + 7.6 % | + 11.7 % | + 9.3 % | + 6.1 % | + 7.4 % | |
| | 76/75 | + 9.9 % | + 5.8 % | + 0.2 % | + 3.5 % | + 8.2 % | + 6.3 % | |
| | 75/74 | + 1.9 % | + 2.7 % | + 8.1 % | + 4.9 % | + 2.2 % | + 3.6 % | |
| | 74/73 | + 2.4 % | + 2.7 % | - 6.8 % | - 1.4 % | + 2.5 % | + 0.2 % | |
| | 73/72 | + 8.0 % | + 6.9 % | + 9.3 % | + 7.9 % | + 7.5 % | + 7.9 % | |
| | 72/71 | + 9.6 % | + 7.8 % | + 18.8 % | + 12.2 % | + 8.8 % | + 11.1 % | |
| Number of passenger-kilometres | 77/76 | + 5.9 % | + 8.9 % | + 9.5 % | + 9.2 % | + 7.6 % | + 8.4 % | |
| | 76/75 | + 10.3 % | + 7.5 % | + 6.0 % | + 6.6 % | + 8.6 % | + 7.4 % | |
| | 75/74 | + 3.0 % | + 5.4 % | + 4.2 % | + 4.7 % | + 4.4 % | + 4.3 % | |
| | 74/73 | + 4.2 % | + 3.2 % | - 4.6 % | - 1.4 % | + 3.6 % | - 0.2 % | |
| | 73/72 | + 9.9 % | + 10.1 % | + 10.6 % | + 10.4 % | + 10.0 % | + 10.3 % | |
| | 72/71 | + 12.0 % | + 10.9 % | + 20.4 % | + 16.1 % | + 11.3 % | + 15.2 % | |
| C A R G O | Freight | 77/76 | + 16.9 % | + 7.6 % | N/A | N/A | + 10.0 % | N/A |
| | | 76/75 | + 9.0 % | + 7.9 % | | | + 8.2 % | |
| | | 75/74 | - 11.8 % | - 8.8 % | | | - 9.6 % | |
| | | 74/73 | + 10.1 % | + 1.7 % | | | + 3.8 % | |
| | | 73/72 | + 18.8 % | + 9.4 % | | | + 11.1 % | |
| | | 72/71 | + 8.6 % | + 13.6 % | | | + 12.5 % | |
| C A R G O | Mail | 77/76 | + 7.6 % | + 16.3 % | N/A | N/A | + 12.1 % | N/A |
| | | 76/75 | + 6.7 % | + 5.4 % | | | + 6.0 % | |
| | | 75/74 | - 0.2 % | + 13.1 % | | | + 6.3 % | |
| | | 74/73 | + 12.8 % | + 5.6 % | | | + 9.2 % | |
| | | 73/72 | + 9.7 % | + 9.1 % | | | + 9.4 % | |
| | | 72/71 | + 2.9 % | + 7.5 % | | | + 5.4 % | |
| C A R G O | Total | 77/76 | + 14.7 % | + 8.5 % | N/A | N/A | + 10.3 % | N/A |
| | | 76/75 | + 8.4 % | + 7.6 % | | | + 7.9 % | |
| | | 75/74 | - 9.6 % | - 6.8 % | | | - 7.9 % | |
| | | 74/73 | + 10.7 % | + 2.0 % | | | + 4.5 % | |
| | | 73/72 | + 16.7 % | + 9.4 % | | | + 11.2 % | |
| | | 72/71 | + 7.2 % | + 13.0 % | | | + 11.6 % | |

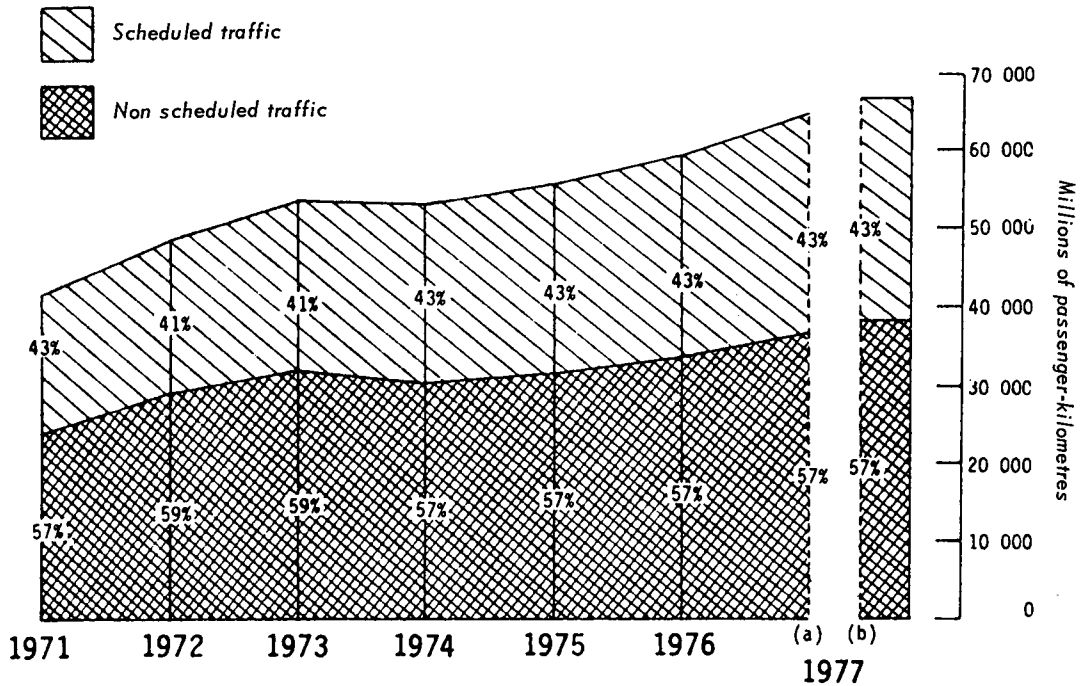
(b) excluding Yugoslavia

NOTES TO TABLES

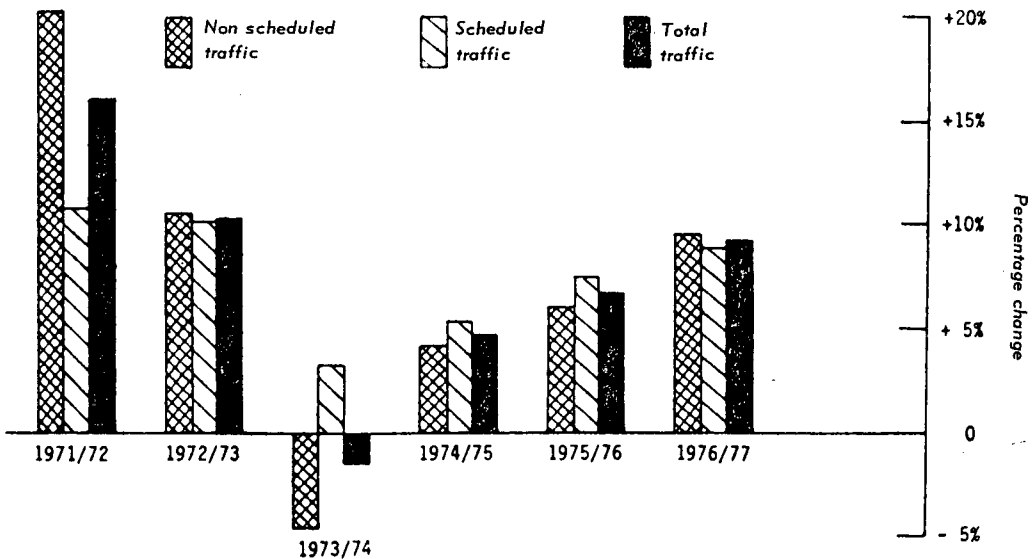
- Column (1) The estimates in this column refer to the total scheduled metropolitan domestic traffic of ECAC Member States. The data have been consolidated from figures given for ECAC Member States in the ICAO Digest of Statistics N^o. 228 ("Traffic – Commercial Air Carriers 1973-1977") adjustments having been made for Denmark, France, the Netherlands and Portugal, in an effort to eliminate the domestic traffic not performed within the metropolitan (European) territories of the States concerned (i.e. Denmark – Greenland traffic, France – French Antilles traffic, etc...).
- Column (2) The figures in this column refer to intra-European scheduled traffic performed by member airlines of the Association of European Airlines (AEA) * during the calendar year 1977 and were consolidated from data supplied by the AEA. The number of passengers relates to those carried between ECAC member States. Passenger-kilometres and cargo tonne-kilometres have been estimated by multiplying the number of intra-ECAC passengers and the tonnes of intra-ECAC cargo by average stage distances of passenger, freight and mail traffic within the AEA "local Europe" region (which also includes Eastern Europe to longitude 55° E as well as Algeria, Morocco and Tunisia), such average stage data not being available for the intra-ECAC region.
- Column (3) The estimates in this column refer to non-scheduled traffic (international) carried between ECAC Member States during the twelve-month period ended 31 October 1977. The figure for passengers was taken from ECAC. CEAC Doc N^o. 16 and the passenger-kilometres figure arrived at by applying an average passenger trip length of 1552 kilometres estimated by the Secretariat.

- * AEA member airlines :
- Aer Lingus, Irish International Airlines
 - Air France
 - Alitalia
 - AUA, Austrian Airlines
 - British Airways
 - British Caledonian
 - Finnair
 - Iberia
 - Icelandair (Flugfélag Islands)
 - JAT, Yugoslav Airlines
 - KLM, Royal Dutch Airlines
 - Lufthansa
 - Olympic Airways
 - Sabena
 - SAS, Scandinavian Airlines System
 - Swissair
 - TAP, Portuguese Airways
 - THY, Turkish Airlines
 - UTA (France)

INTRA - EUROPEAN TRAFFIC - 1971-1977

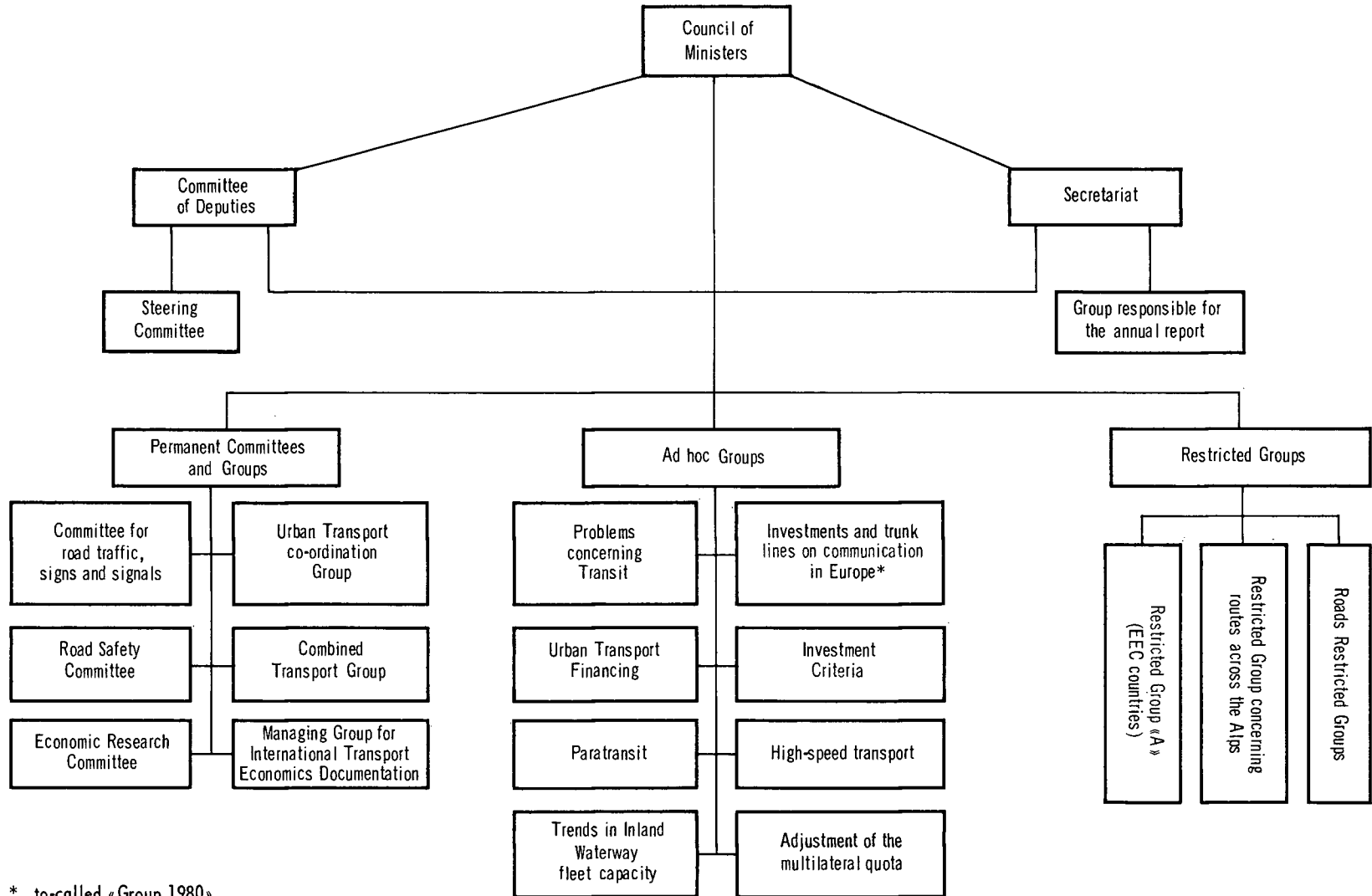


ANNUAL PERCENTAGE CHANGES - 1971/1972 - 1976/1977 (a)



- (a) Yugoslavia excluded, for purposes of comparison with previous years.
- (b) Yugoslavia, which joined ECAC during 1977, included.

Annex I
ECMT ORGANISATION CHART AS FROM JANUARY 1979



* to-called «Group 1980».

ANNEXE II

1. LISTE OF OFFICERS OF THE ECMT

OFFICERS OF THE COUNCIL OF MINISTERS

In accordance with the provision of Article 1a) of the Rules of Procedure, the Council of Ministers, at its session of 12th December, elected the following Officers :

Chairmanship (Yugoslavia)

Mr. A. ZELIC, Minister of Transports and Communications

First Vice-Chairmanship (Germany)

Mr. K. GSCHEIDLE, Federal Minister of Transport

Second Vice-Chairmanship (Finland)

Mr. V. SAARTO, Minister of 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 :

Chairmanship (Yugoslavia)

M. M. IVKOVIC, Consellor to the President in charge of International Relations

First Vice-Chairmanship (Germany)

Mr. C. WOELKER, Ministerial Director, Federal Ministry of Transport

Second Vice-Chairmanship (Finland)

Mr. R.J. AUVINEN, Secretary-General, Ministry of Transport.

2. LIST OF DELEGATES AT THE BRUSSELS AND PARIS SESSIONS

AUSTRIA

Mr. LAUSECKER*, Federal Minister of Transport
Mr. HALBMAYER, Director-General, (Deputy to the Federal Minister of Transport)
Mr. METZNER, Director-General, Federal Ministry of Transport
Mr. GRADINGER*, Deputy Member of the Transport Committee of the National Council
Mr. KNAPPL, Head of the International Organisations Office
Mr. WEBER*, Private Secretary to the Federal Minister of Transport

BELGIUM

Mr. CHABERT*, Minister of Communications
Mr. POPPE, Secretary-General (Deputy to the Minister)
Mr. DE WOLF*, Head of the Private Office of the Minister
Mr. SINNAEVE, Acting Director-General
Mr. MAGDALEYNS**, Administrative Director
Mr. de VOGELAERE*, Administrative Secretary

DENMARK

Mr. OLESEN*, Minister of Transport
Mr. HALCK, Secretary of State (Deputy to the Minister of Transport)
Mr. PEDERSEN*, Head of Division,
Mr. MÖLLMANN*, Head of Division,
Mr. HARRITSNAJ*, Private Secretary to the Minister
Mr. FOLDBERG*, Legal Adviser, Danish State Railways
Mr. DUE*, Director, Ministry of Justice
Mr. WIESE*, Head of Division, Ministry of Justice
Mr. BAASCH POULSEN**, Head of Section, Ministry of Justice

FINLAND

Mr. V. SAARTO, Minister of Communications
Mr. AUVINEN, Secretary-General, Ministry of Communications
(Deputy to the Minister of Communications)
Mr. KOSKINEN*, Secretary to the Minister of Communications (Political Affairs)
Mr. LEHTINEN, Secretary for International Affairs
Mr. OINONEN**, First Secretary, Finnish Delegation to the OECD

* Brussels Session.

** Paris Session.

FRANCE

Mr. LE THEULE, Minister of Transport
Mr. COMMEAU, Inspector General for Transport and Public Works
(Deputy to the Minister of Transport)
Mr. COSTET**, Director-General of Inland Transport
Mr. GRANGE, Technical Adviser to the Minister of Transport
Mr. ARTAUD-MACARI**, Honorary Chairman of the High Council of Transport
Mr. BABEY, Deputy-Director, Highways and Road Traffic Directorate
Mr. GAUTHIER, Administrative Officer in charge of the International Relations Office
Miss LE GALL, Attachée principale d'Administration
Mr. GARREAU*, Counsellor for Foreign Affairs, Ministry of Foreign Affairs
Mr. GERONDEAU*, Secretary-General, Inter-Ministerial Committee for Road Safety
Mr. MAMONTOFF*, Chargé de Mission, General Secretariat of the Inter-Ministerial Committee for Road Safety

GERMANY

Mr. GSCHEIDLE, Federal Minister of Transport
Mr. WOELKER, Ministerial Director (Deputy to the Federal Minister of Transport)
Mr. KAPPEL, Ministerial Counsellor
Mr. KEIDEL, Ministerial Counsellor
Mr. HERRMANN*, Ministerial Counsellor
Mrs. LOTEE**, Press Attaché
Mrs. GROPPE**, Interpreter

GREECE

Mr. PAPADOGONAS, Minister of Communications
Mr. GIANNOPOULOS, Counsellor (Deputy to the Minister of Communications)
Mr. BEKIARIS, Director

IRELAND

Mr. FAULKNER*, Minister for Tourism and Transport
Mr. McMAHON, Secretary-General (Deputy to the Minister)
Mr. O'DOHERTY*, Assistant Secretary-General, Department of the Environment
Mr. RYAN, Principal, Department of Tourism and Transport

ITALY

Mr. ACCILI, Secretary of State for Transport
Mr. FONTANA*, Secretary of State for Public Works
Mr. AMERIO, Director-General, Ministry of Transport (Deputy to the Minister of Transport)
Mr. BUCCIARELLI*, Director-General
Mr. LAURETTI**, Principal Director
Mr. COSENTINO, Principal Inspector
Mr. PIAZZINI, Principal Inspector

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** Paris Session.

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Mr. BLEY*, Principal Inspector

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Mr. VAN DER NOORDT, Director of International Transport Policy
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Mr. DE GROOT*, Director-General of Transport
Mr. QUIST*, Deputy-Director for Road Safety
Mr. OSTEN*, Counsellor
Mr. van OOSTERWIJK**, Counsellor
Mr. van REES**, Counsellor
Mr. RIJSDIJK, Information Department
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Mr. IMEDIO, Head of International Affairs Section, High Council for Transport

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Mr. PITTAM, Senior Principal
Mr. GOLDMAN*, Private Secretary

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Mr. CEROVÍĆ, Ambassador, Head of Yugoslav Delegation to OECD
Mr. IVKOVIĆ, Counsellor to the President of the Federal Committee for Transport and Communications, in charge of International Relations (Deputy to the President of the Federal Committee for Transport and Communications)
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Mr. von HOFFMANN*, Director, General Secretariat, Council of the European Communities
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