EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

XIX

SIXTEENTH ANNUAL REPORT AND RESOLUTIONS OF THE COUNCIL OF MINISTERS

YEAR 1969

STOCKHOLM, 11th JUNE 1969
PARIS, 16th DECEMBER 1969

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ANNEXES

Chapter I

GENERAL REVIEW OF THE PROCEEDINGS OF THE CONFERENCE AND ITS EXTERNAL RELATIONS

1. In 1969 as in previous years the Council of Ministers held two sessions, the first taking place at Stockholm on 11th June (29th Session) and the second at Paris on 16th December (30th Session).

2. The Officers of the Conference consisting of the Minister of Communications of Sweden (Chairman) the Minister of Transport of Italy (Vice-Chairman) and the Minister of Public Works of Spain (2nd Vice-Chairman) were elected at the end of the 30th Session for the coming year.

The new Officers are the Ministers of Transport of Italy (Chairman), the Minister of Public Works of Spain (first Vice-Chairman and the Minister of Transport of the United Kingdom (second Vice-Chairman).

3. In 1969, the Committee of Deputies held six sessions. It worked with the assistance of the Committees appointed following the reationalisation measures introduced in 1967 (see paragraph 7, 14th Report), namely:

- the Investments Committee which with the help of three Sub-Committees (Railways, Roads and Inland Waterways) and a Working Party responsible for road statistics deals with a series of practical economic studies and draws up an annual report on European investments and traffic returns for railways, roads and inland waterways (see Part 2);
- the Railways Committee (see Chapter III);
- the Road Safety Committee (see Chapter IV);
- the Economic Research Committee (see Chapter II);
- the Urban Transport Committee (see Chapter VII).

The Committee on Noise Abatement did not hold a meeting in 1969. Its Chairman keeps in touch personally with the work of the other international organisations in this field in order to arrange meetings in good time when decisions have to be taken.

The Committee of Deputies and the Subsidiary Committees were assisted by some ten Groups of Rapporteurs. Experience has shown that the setting up of these Groups of representatives of four or five countries on request and for a specific purpose was certainly advantageous, provided that the Members of the Group are chosen because of their expertise in the subject concerned and that the countries taking part are representative of the opinions involved. The proposals of such a Group transmitted directly to the Committee to which it belongs provide a very useful approach to the solutions to be applied. The work is thus divided among the delegations and the Secretariat's task of preparing the basic documents is made easier.

In some cases and for a specific period, a Group of Rapporteurs may become a Working Party with full membership. This occurred in 1969 for the Group responsible for studying the working conditions of crews of road vehicles in international traffic. It was thought essential that all the delegations should participate so that there could be genuine negotiation on the preparation of texts to be transmitted to the United Nations Economic Commission for Europe.

4. Two Restricted Groups set up previously under the provisions of Article 8 of the ECMT Protocol met in 1969. They were:

a) Restricted Group "A" formed by the six countries of the European Economic Community which met at ministerial level immediately before each of the sessions of the Council of Ministers. Its work consisted

mainly of keeping all the members of the Conference regularly informed of the most notable activities of the EEC and more generally in establishing a liaison between the six countries of the Community and the other countries belonging to the ECMT.

b) Restricted Group "B" which includes the fourteen countries engaged on the harmonization of road traffic rules and road signs and signals. This Group's activities are set out in Chapter IV below.

The structure of the ECMT is given in Annex I.

5. Relations with other international organisations developed satisfactorily.

6. As in previous years the OECD made available the material facilities required by the ECMT for its work, in accordance with the agreements first signed in 1954 between the ECMT and the OEEC and renewed in 1961 when the OECD was set up.

In 1969 the ECMT offices were moved to 33, rue de Franqueville. They are an improvement on the previous accommodation and provide all the necessary conditions for the rational organisation of the work.

The ECMT takes this opportunity of especially thanking the OECD for its assistance and co-operation.

The OECD/ECMT Liaison Committees appointed to deal with problems of common interest and consisting of the Netherlands, United States, Norwegian and United Kingdom Delegations for the OECD and the members of the Officers of the Committee of Deputies for the ECMT and the Chairman for the previous year met on 25th April, 1969.

Under their auspices a Scientific liaison Group was set up in 1968 to avoid duplication and to make arrangements for co-operation between the two Organisations in scientific research on transport, construction and road safety. This Group which consisted for the OECD of the United States, Japan and Italy and for the ECMT of the Netherlands, Germany and the United Kingdom held three meetings in 1969. After considering the programme of the two organisations it decided that the studies on "Transport and New Towns" would be carried out jointly.

7. The major event in relations between the ECMT and the Council of Europe was the submission on 2nd October, 1969, of the 15th Annual Report of the ECMT by its Chairman at that time, Mr. Bengt Norling, Minister of Communications of Sweden. Resolution No. 423 was adopted by the Assembly and the action taken on it is described in this report.

Close and friendly contacts were maintained between the services of the two Organisations, whose programmes are considered jointly each year so as to encourage co-operative action. On several occasions representatives of the ECMT took part in meetings organised by the Council of Europe. A preliminary joint meeting of experts of the two Organisations took place in 1969 to prepare in common a Conference on road safety education at school.

8. The Director of the Transport Division of the United Nations Economic Commission for Europe regularly attended the ordinary sessions of the Committee of Deputies and was represented at several meetings of subsidiary bodies. The ECMT itself took part in the annual session of the Inland Transport Committee of the ECE at Geneva. In this way there is active co-operation and the ECMT is able to take advantage of certain basic studies which are essential for its own syntheses or for the decisions to be taken by the Council of Ministers. On the other hand, when the work carried out in the ECMT has seemed to imply that the solution to certain problems might be applied to Europe as a whole, the ECMT has sent the results to Geneva so that general agreements could be formulated more quickly. This was the case in 1969 as regards the studies for the co-ordination of road traffic rules and road signs and signals and rules on the working conditions of crews of vehicles engaged in international transport.

9. Regular contacts are maintained between the Secretariat of the ECMT and the General Directorate for Transport of the European Economic Community which has sent delegates to a number of ECMT meetings.

10. The ECMT maintains close relations with the Central Commission for Navigation of the Rhine; the Secretariat attended some of the Commission's meetings at Strasbourg and, on a reciprocal basis, the Commission's Secretariat sent representatives to several ECMT meetings concerned with inland waterways.

11. Although air transport does not fall within its jurisdiction, the ECMT is faced increasingly with problems where the impact of air transport has to be taken into account in order to have an overall view

of the transport system. In cases where air and internal transport activities have overlapped, the ECMT has sought the assistance of the European Civil Aviation Conference (ECAC) and the Institute of Transport Aviation (ITA) of which it is a member. This Institute is also closely associated with the economic research activities of the ECMT.

Generally speaking, these two organisations work in close co-operation in a very favourable atmosphere.

12. The ECMT maintains regular contacts with the non-governmental international organisations and on several occasions has asked them to take part in activities together with the national delegates (Investments Committee, Road Safety Committee, and various Groups of Rapporteurs). As in previous years, all the non-Governmental international organisations were invited by the Officers of the Conference to a hearing so that before the Council meeting in December, they could state their views and make suggestions regarding the questions on the Agenda and the work of the ECMT as a whole. This meeting proves to be extremely useful and the views expressed are always examined with great care.

In addition a general discussion took place on the subject of combined transport.

The ECMT also participated in a number of meetings of the International Chamber of Commerce and was also represented at several demonstrations organised by the Prevention Routière Internationale.

Chapter II

GENERAL TRANSPORT POLICY

A. ACTION TAKEN BY THE ECMT

13. The ECMT has always considered that one of its main tasks should be to define the main guidelines of general policy.

14. The 15th Report including the information given in previous reports summarised the results already achieved and, in particular, drew attention to the importance of the Outline Plan adopted in 1963 setting out the main elements of a general transport policy.

The difficulties to be overcome were pointed out at that time; these were mainly concerned with means of action since the objectives and basic principles of the Outline had already been approved.

On the other hand, it has to be realised that the work of preparing common principles is unending because of the changing nature if the problems due to the very changes in needs and techniques.

15. In the last few years a number of national measures have been introduced to reform already existing transport policies and the European Economic Community has made progress in harmonizing the policies of the Member countries in various sectors.

These measures have encouraged and still encourage the ECMT Ministers of Transport to endeavour to promote European integration to the greatest possible extent.

16. A permanent Group of Rapporteurs was set up in 1968 to co-ordinate and assist the work of the Conference on General Transport Policy. Guided by the directives of the Council of Ministers which at each session discussed the most important problems, the Group submitted, under the auspices of the Committee of Deputies, a two-year programme of action (which may later be renewed) for the Ministers' approval.

The document containing this programme summarised the questions to be dealt with and, where appropriate, the studies already carried out; it set out the work to be undertaken in order of priority.

17. The Ministers in their discussions on the document approved this attempt to apply concrete measures and drew the following conclusions:

a) The Outline Plan for general policy approved in 1963 should be retained as a basic reference for the work;

b) The ECMT should assert its position as the body to combine and to co-ordinate transport from a policy and economic standpoint.

c) Its work should fulfil the need to establish a link between the European Community and the other member countries.

d) Although the ECMT has no jurisdiction in the maritime and air transport sectors it should pay more attention to the impact of these forms of transport on internal transport, for which it is responsible.

18. The programme of action which was defined at the 29th Session of the Council includes the continuation of current work with priority for the liberalisation of occasional passenger traffic, the introduction of a multilateral quota for international road freight transport and combined transport.

In addition, a new field of investigation was opened - the promotion of international rail traffic which, according to numerous Ministers, had not benefited sufficiently from the development of inter-

national traffic. This important question will be dealt with by the Railways Committee.

The problem of taxing the use of infrastructures was also given special attention. The co-ordination of national policies in this sector was considered to be essential to European integration.

19. To ensure that there was sufficient co-ordination of the work of the ECMT and the European Economic Community, meetings of Restricted Group "A" were held regularly before each plenary session of the Council of Ministers of the Conference, and the Council was therefore kept informed of the progress towards a common transport policy and in particular the adoption of the following measures:

- a regulation on the harmonization of certain social measures in road transport;
- a regulation on action taken by member countries as regards obligations due to the concept of public service;
- a regulation on the common rules for the standardization of the accounting systems of railways undertakings.

In addition studies were made on numerous proposed regulations or directives in the Community in 1969. These proposed measures included:

- aid to rail road and inland waterways transport undertakings;
- access to the transport market by inland waterways;
- introduction of a system of bracket rates for freight transport by road between the member countries;
- the development of national fiscal systems for commercial vehicles;
- an inventory in the framework of international statistics, of international freight transport by road.

20. Generally speaking, the importance of economic research to define the objectives for discussions on general transport policy is becoming increasingly obvious.

The ECMT extended its activities in this direction in 1969 through the Research Centre which it had set up at the end of 1967.

21. The first outcome in this connection was the Third Symposium on Theory and Practice in Transport Economics held in Rome on 23rd to 26th September, 1969. This Conference, as the previous conference in Munich in 1967, was attended by about three hundred participants from university administrative and business circles, international organisations and the Press and there were animated discussions on the following subjects:

1. Economic implications of the development of productivity in the transport field, in particular concerning the economic distribution of goods traffic between the various forms of transport.

2. Transport in conurbations, considered as an integral part of regional development policy.

3. Effects of specific government intervention on the organisation and efficiency of transport concerns.

Two basic reports were made on each subject, from a theoretical and practical standpoint.

22. As regards research, the work of the Symposium was extended by the four Round Table Conferences which were in fact discussions on a basic report at scientific level between about 15 specialists on the subject in question. This arrangement has the advantage of enabling a study to be made in depth of specific points.

The programme of the Round Table Conferences in 1969 consisted of:

1. 27th-28th February:

Choice of means of transport:

a) psychological motivation;

b) the econometric approach.

2. 8th-9th May:

Elaboration of models for forecastings demand and need in the transport sector.

3. 23rd-24th October:

The role of infrastructural investment in the economic development process.

4. 13th-14th November

Theoretical and practical research on the exact appraisal of time savings.

In the light of previous experience, the current or proposed programmes average about four or five Round Tables per year.

23. To give practical effect to the conclusions drawn from the Symposiums and Round

Tables at international level, the ECMT in 1969 organised meetings for officials in the form of seminars. The first seminar was held in the autumn of 1969 to draw up a programme of future discussions in the light of the theoretical data available and the topicality and importance of the problems. The next seminar (there will be two in 1970) will deal with urban transport problems.

24. After a few years' experience it was decided that the choice of subject to be dealt with by the various research bodies (Symposia, Round Tables and Seminars) should be more consistent. Instead of choosing the subjects separately it was decided to draw up an overall programme for several years so as to be able to plan research on a well co-ordinated basis. This action should be developed in 1970.

25. In 1969, the ECMT continued to issue a half-yearly bulletin giving the current economic studies on transport undertaken in the various European administrations or institutes. Research workers are thus provided with a source of information which is most appreciated and which encourages the co-ordination of research.

Likewise, the establishment of an integrated documentation system to enable exchanges of information between the member countries of the ECMT which started in 1968 was further developed in 1969.

26. Among the special problems dealt with under the heading of general policy is that of the liberalisation of occasional inter national passenger transport. This problem has already been discussed by the Conference for some time under the heading of objective conditions of access to the transport market. Progress was made in 1969; first, the definitions of the various categories of passenger/transport by road (regular services, shuttle services and occasional services) were adopted by the Council of Ministers at its 30th Session and, secondly, at the same session, the Ministers decided (with only one reservation) to liberalise from 1st January, 1970 occasional passenger transport when the outward journey was laden and the return journey unladen.

27. The establishment of a multilateral road haulage quota whereby holders of licenses could undertake any international transport operation between countries which were members of the ECMT gave rise to animated discussions at each of the two sessions of the Council. Although progress was made in the study of this particularly complex question the difficulties of allocating the quota and the extent of the co-ordinating measures required before the quota can be established have not yet been overcome.

28. In accordance with a decision of the Council at its 30th Session (December 1969), the ECMT had undertaken, as proposed by the Greek Delegation, a study on exemption from all duties and taxes on international road haulage of goods in transit.

29. Other studies which fall under the heading of general transport policy are those concerning combined transport and the working conditions of crews of vehicles engaged in international road transport. These subjects are dealt with later at greater length.

SOCIAL PROBLEMS

29. It can again be emphasized that the ECMT has always paid particular attention to the social and human aspects of transport problems. As in previous years, the Officers of the Council of Ministers have attached great importance to the annual hearing of non-governmental international organisations (see Chapter I) which include the two major trade union deferations, the World Confederation of Labour (WCL) and the International Transport Workers Federation (ITF). Social problems have of course been dealt with and the ECMT has been asked to take a more direct interest in this field. This suggestion - as all those made at the hearing - is being studied in depth by various bodies of the Conference.

Every problem has its human aspect and whenever a decision is taken at any level in the ECMT the social and human element is always taken into account at least implicitly and often explicitly.

Working conditions are often changed by technical development and sometimes there is a direct improvement such as the safety of workers responsible for coupling wagons due to the possible introduction of automatic coupling. In this respect social considerations play a particularly important role in the governmental approach. Sometimes there are repercussions on the level and quality of the job as, for instance, the effect of the rapid development of big container transport. The Resolution on combined transport adopted by the Ministers at the 29th Session of the Council at Stockholm is an example when the following statement was made:

"The Council

deems it necessary that governments of all member countries should, in particular,

.....

keep close watch on the social problems which may arise as a consequence of the growth of container transport;"

The numerous ECMT activities connected with road safety and the organisation of town transport are also undertaken primarily for the benefit of man and his living conditions.

To conclude this chapter reference must be made to the further discussions which took place in 1969 on the working conditions of crews of vehicles engaged in international road transport.

As already stated in the 15th Report, the revised version of the agreement (AETR) signed in Geneva in 1962 and not yet ratified, should be brought into line with the decisions in the European Economic Community. The ECMT has endeavoured to harmonize the views of the member countries in the light of the discussions still taking place in Geneva.

B. ACTION AT NATIONAL LEVEL

31. Numerous general transport policy measures were introduced at national level in 1969. The most important are worth mentioning since they show the trend of thinking in the ECMT and often have an impact on the Organisation's work.

32. In Germany, measures in the 1968-1972 transport programme were again prominent and have been dealt with in previous reports. The following legislation came into force:

- fiscal legislation on road freight transport;
- amendments to the legislation on inland waterways transport;
- amendments to the legislation on railways;
- legislation amending the provisions on staff promotion;
- amendments to the legislation on road freight transport;
- Order on air pollution due to exhaust emission from vehicles;
- Order on higher speeds for heavy vehicles by increasing the power per ton (from 6 to 8 h.p.);
- Order on improved road safety by regulations on stationary or parked vehicles;
- Order on subsidies for the scrapping of surplus capacity in inland waterways transport;
- Order on the supervision of the rates fixed for transport services and on the collection of taxes in inland waterways;
- Order on the establishment of extended freight committees in inland waterways.

In implementing the transport policy programme the German Ministry of Transport drew up directives for government contributions for the promotion of combined transport and transport using special links.

One of the results of this programme of investment aid is the promotion of a safer and more economic transport service for the community through the collaboration of rail and road undertakings and carriers. DM 250 million are allocated each year for the duration of the programme.

By a reform of the penal code road transport is no longer subject to "criminal" law. A major part of the legislation consists of a detailed list of fines for infringements.

In addition, a bill amending the road transport laws aims at improving road safety by fixing the maximum alcohol level at 0.8% for drivers. This Bill is at present before the appropriate assemblies. Also in connection with road safety an Order has been introduced forbidding heavy vehicle traffic on motorways and certain federal highways, particularly during certain weekends, in order to relieve holiday traffic.

In June 1969, a Council for Transport Safety consisting of organisations which aim at improving safety will undertake a campaign against accidents.

33. In Austria the National Council at its meeting on 6th March, 1969, formally recorded the overall concept of the transport system established by the Austrian Government. Following this concept, scientific research was undertaken in 1969 on the following problems:

- freight charges on industrial products in Austria;

- container and piggy-back transport;
- road rail and Danube water; infrastructure costs;
- private transport.

The measures provided for in the overall concept can only be implemented in stages. One very important stage was the enforcement on 14th June, 1969 of new legislation concerning the Federal Railways. Under this Act the separation of State-supervised and private management which had long been necessary was effected.

This legislation gives the Railways Administration the freedom of action and decision which is essential for well-organised railways management in today's economic conditions and stipulates that the railways must be run on economic lines, provide transport services according to demand and maintain and increase the invested capital. Finally, this law embodies the general transport policy principle that interests other than those of the railways are only taken into account if they are laid down by special legislation. In this way a guideline is fixed for the transport policy of Austria's major form of transport.

On 1st January, 1969, certain amendments to the rail freight rates came into effect. The margin of reduction was limited for a series of special rates. This was the case particularly for support rates, in accordance with the objectives of the Railways Act and general policy.

As regards freight sundries, some of the rates for light loads were appreciably increased whereas rates for heavier loads remained unchanged or were even slightly decreased. These tariff measures were designed to supplement the present efforts to rationalise and improve the profitability of freight sundries. The regular tariff categories for fully loaded wagons remains unchanged.

From 1st January, 1969, equal rates were introduced for ordinary tickets valid for transport by rail or by bus over distances where the bus represents the main form of transport i.e. up to 100 km.

Prices for long-distances transport remained the same. New prices were fixed only for distances ranging from 101 to 140 km. so as to ensure continuity between the increased prices for links of less than 100 km. and the prices for the longer distances which had not changed.

In 1969 an agreement came into force between the railways and the Postal Services and Telegraphs Administrations on the joint operation of their respective road services. Under this agreement the two Administrations achieved economic co-operation in a modern form.

In 1969, new labour legislation including provisions for road transport came into force on 1st January, 1970.

Finally, legislation was drawn up to improve the safety of taxi drivers. In the field of international passenger and road freight transport, bilateral negotiations were started in 1969, resulting in the conclusion of agreements or the adaptation of already existing agreements on transport development. With the United Kingdom and Turkey, international regulations on road transport were introduced for the first time. The agreements concluded with the Netherlands and Belgium were revised.

34. Instances of legislation in Belgium are as follows:

On 21st November 1969 the tariffs for high speed and express transport of freight sundries by internal rail transits were increased on an average by about 10%.

As regards passenger road transport, the Act of 23rd June, 1969 supplemented by the Royal Decrees of 26th June and 27th June, 1969 defined tawi services, their operational conditions and the granting of licences. In addition, the Royal Decree of 24th June, 1969 defined hired vehicle services to prevent confusion with taxi services.

As regards road freight transport, under the Decree of 10th March, 1969 amending the Royal Decree of 9th September, 1967 transport between Belgium and the Grand Duchy of Luxembourg in both directions and transport between Belgium and an area extending to a depth of 25 km. "as the crow flies" in a bordering country no longer requires a general international transport licence.

Under the Ministerial Decree of 30th June, 1969 the test for obtaining a certificate of professional efficiency in international transport was abolished for transits between Belgium and the Netherlands, in both directions for individual entities who, on 1st July, 1969, or later were actively taking part in the management of undertakings or branches of undertakings for transporting goods by motor car on a remunerative basis and who held at that date at least a general national transport licence.

These specifications are the same as those which are recommended by or conform to the national regulations for catadioptric devices fitted to vehicles. In other words, they are specifications laid down by Regulation No. 3 in the Annex to the Agreement on the adoption of standard conditions for the certification and mutual recognition of the certification of motor vehicle equipment and parts, signed in Geneva on 20th March, 1958.

Official standard specifications are also laid down for catadioptric devices fitted on vehicles with Belgian registration plates.

In addition, under the law on the policing of road traffic no person may drive a motor vehicle on a public highway unless he is holder and bearer of a driving or learner-driver's licence issued in Belgium, or of a foreign national or international driving licence on conditions fixed by the appropriate provisions on international road traffic.

The driving licences of Austria, Bulgaria, Denmark, Hungary, Romania, Czechoslovakia, the Vatican, Burundi, Guinea, Mali Rwanda, Syria and Viet-Nam were recognised in Belgium in 1969.

A series of measures were adopted for inland waterways, namely:

1. The Act of 30 th December, 1968 on transport coming under the provisions of the Decree-Law of 12th December, 1944 setting up an Inland Waterways Transport Regulations Board (MB 1-3-1969).

The difficulties at present experienced by inland waterways in Belgium as in neighbouring countries are mostly due to structural factors (for example, the coal crisis). These difficulties are shown in surplus capacity and exert undesirable economic pressure on the market.

To reform the inland waterways fleet, the Act lays down that any inland waterways craft used for transport coming under the provisions of the Decree-Law of 12th December, 1944 setting up ORNI must have a classification certificate valid for the type of transport concerned.

When a classification certificate is entirely or partly refused, transport can only be undertaken after an attestation has been issued for the type of transport concerned at the request of the owner or operator of the craft.

The general obligation for craft undertaking such transport to obtain a certificate or attestation of this kind will contribute quantitatively and qualitatively to the necessary reform since it will raise the average level of the quality and efficiency of the inland waterways fleet.

A Royal Decree of 27th March, 1969 (MB - 12th April, 1969) established a Commission responsible for issuing attestations for inland waterways craft which had been refused the classification certificate.

Applicants for an attestation have to pay B.Frs.500 to the State (Royal Decree of 27th March, 1969, MB - 12th April, 1969) to cover the administration expenses of the control and supervision required by the enforcement of the Act of 30th December, 1968.

2. Royal Decree of 27th March, 1969 on the conditions for issuing classification certificates laid down by Article 32 of the Act of 5th May, 1936 on inland waterway chartering (MB - 12th April,

This Decree amends the conditions on which the responsible bodies agree to issue classification certificates. In particular, it makes it obligatory for these bodies to give reasons for refusing, either entirely or partly, to issue a classification certificate and stipulates that this refusal and its reasons should be notified without delay to the applicant by registered letter.

3. Ministerial Decree of 27th January, 1969 on the conditions on which chartering and hiring, effected through the chartering offices of the ORNI by turn should be compulsorily concluded ((MB - 19th April, 1969)

This Decree lays down a model charter party contract. The wording of the contract retains its validity even if there are contrary stipulations in the bill of lading.

Under penalty of being declared null and void, contracts for trip charters and time hirings concluded by turn through the chartering agencies of ORNI should be made under the provisions of the Act of 5th May, 1936 on inland waterways chartering excluding any contrary stipulations.

The Decree of 27th January, 1969 sets out the responsibility of the lighterman if the cargo is damaged due to an accident in navigation. The lighterman is not responsible for the damage even if the accident is due to

a mistake in navigation but, to be exonerated from responsibility, he must produce a classification certificate on the conditions fixed by the Royal Decree and prove that at the time of the accident he was on board and that a female or male assistant at least 18 years old was on duty on the craft.

4. The Ministerial Decree of 29th October, 1969 concerning charter and hiring rates for all charter party agreements concluded through ORNI (MB - 13th November, 1969)

a) From 1st November, 1969 the charter rates for any trip charter contract concluded through ORNI correspond to the ORNI 1953 rates increased by 276%. The general rates in 1967 had reached 218% compared with 1953.

The increase varies for certain contracts. It amounts to :

i) 248% for any trip charter agreement for the transport of iron ore to a port accessible with a 2.50 m. draft and for the transportation of coke;

ii) 237% for any charter agreement for transporting bricks;

iii) 208% for any trip charter contract for transporting sand of types generally used in construction, gravel and grit from rivers or quarries in alluvion plains whether crushed or not.

b) From 1st November, 1969, the basic charter rates of ORNI for "on the berth" chartering and hiring are increased by 230%.

This increase amounts to 274% for "on the berth" charters provided for in any charter agreement concluded by turn through the ORNI chartering offices at Antwerp and Ghent.

5. Ministerial Decree of 29th October, 1969 concerning the operating by turn of the ORNI chartering offices (MB - 13th November, 1969)

From 1st November, 1969 in the case of international traffic the freighter must supply freight which is at least equal to 90% of the general freight level whereas since 1967 it has only had to equal 85%.

6. Royal Decree of 28th November, 1969 concerning indemnities and compensation for loading and unloading inland waterways craft at night, on Sundays or official holidays or for more than eight hours (MB - 6th January, 1970)

The loading and unloading of inland waterways craft is authorised at night, on Sundays, official holidays or during a period exceeding eight working hours.

Indemnities and compensation were fixed in 1952 and were changed and increased by five times as much in 1969.

The lay-day period and demurrage rates for inland waterways charters are fixed by the parties to the contract. If they are not specified in the contract they are calculated in accordance with the Royal Decree of 28th November 1969.

a) Number of lay-days

The number of lay-days is established depending on the tonnage used as a basis for the calculation of the charter or, otherwise, on the tonnage loaded calculated from the draft certificate. It varies from two to six days according to whether the tonnage loaded is less than 375 tons or more than 1,500 tons.

b) Demurrage rates

The demurrage rates are fixed in Belgian francs per ton and per day depending on the tonnage at maximum draft on the draft certificate. The rates vary according to whether the craft is power-propelled or not.

In any case the total demurrage due per day for a craft must not be less than that due for the largest craft in the lower category. It will amount to at least B.Frs. 750 for power-propelled craft and B.Frs. 600 for craft without power.

For any charter party agreement concluded through ORNI, the number of lay-days and the rates for demurrage must be those laid down by the Royal Decree of 28th November, 1969. However the parties to the contract may agree to apply, on loading or unloading or both the reduced lay-day period with a corresponding reduction in the charter rate. The reduction in the total charter rate cannot exceed 25% of the freight and this must be mentioned in the application for tonnage and in the charter agreement.

In addition, the Royal Decrees of 26th September, 1969 approve Resolutions Nos. 22, 24, 25 and 30 passed in 1969 by the Central Commission for the Navigation of the Rhine. These resolutions concern

the regulation for issuing licences to Rhenish craft (MB - 29th March, 1969).

35. In Spain, among the many measures introduced in 1969 in the context of general transport policy, the following may be mentioned:

- Law 1/69 of 11th February, 1969, which endorses the 2nd Plan for Economic and Social Development, for the period 1969-1971, which provides for a large-scale investment programme covering all sectors, including transport infrastructure, to be undertaken during that period.

- The Decree of 4th February, 1969 whereby applicants for driving licences are required to pass more stringent tests. The provisions cover both theory and practice. The theoretical tests are concerned with traffic rules, road signs and signals and working parts of motor vehicles. The practical tests concern driving behaviour in a closed circuit and, where appropriate, in open traffic.

A further provision was added on 5th February. It lists the diseases and other physical disabilities precluding entitlement to a driving licence.

- Decree-Law 3/69 of 13th February, 1969, concerning the application of regulations in respect of toll-motorways. These provisions were issued in connection with the construction of the Seville-Cadiz toll-motorway.

- Decree 486/69 of 6th March, 1969, which lays down the "Rules for the Compulsory Insurance of Passengers". This legislation consolidates the existing rules with amendments to mandatory provisions in the light of experience. Among other important provisions, this Decree ensures the compatibility of this insurance with any other, defines the limits of insurance cover and the rights of beneficiaries, simplifies the records and formulates rules for the determination and collection of premiums.

- The Order of 18th March, 1968, which lays down special provisions for road haulage of fruit and horticultural products between the inland Custom-houses appointed for this purpose in the producing areas and those situated at points of exit by land or sea.

- Decree 693/69 of 10th April, 1969, which defines the jurisdiction of the Ministry of the Interior with regard to traffic supervision and control on Spanish toll-motorways. This Decree is of particular importance in view of the expected growth of traffic on toll-motorways in Spain.

- The Decree of 29th March, 1969, which endorses the "Regulations for the licensing and operation of private driving schools".

- Decree 913-69 of 8th May, 1969 - an amendment to Decree 3750/63 of 26th December, 1963 - which lays down new provisions for the organisation of the "High Council for Land Transport".

- Decree 909/69 of 9th May, 1969, on the new arrangements concerning the membership of the Government Delegation to the Spanish Railways (RENFE) Authority.

- Decree 1277/69 of 26th June, 1969, which amends several articles in the Highway Code, with the insertion of a new chapter defining regulations for motorway traffic.

- Decree 1364/69 of 19th June which lays down regulations for regular international road passenger services. Among other important provisions, this Decree stipulates as an essential requirement for operating services of this kind, that the fleet registered in the name of the operator must provide seating capacity for at least 500 passengers. Furthermore, vehicles intended for international services should not be over one year old as from the date of registration, at the time when the operating licence is applied for.

- Decree 2237/19 of 17th July, 1969, which consolidates all the separate provisions concerning "inland transport inspection".

- The Decree of 29th September, 1969, which complies with Resolution No. 27 of the ECE Inland Transport Committee on the utilisation of sheeted containers for international goods transport under Customs seal.

- Decree 2295/69, which authorises the Ministry of Public Works to give the "Metropolitan Company of Madrid" the franchise for the operation of the new Callao-Ventas line the infrastructure of which was Government-financed.

- Decree 2296/69 of 16th August, 1969, which authorises the Ministry of Public Works' General Directorate of

Railways, Tramway and Road Transport to dismantle the installations of the Haro-Escaray narrow-gauge railway line.

- Decree 2324/69 of 2nd October, 1969, which amends certain articles in the Highway Code and the general provisions concerning fines for traffic offences, with a view to improving road safety.

- The Decree of 18th December, 1969, concerning the affiliation of the "Spanish Narrow-Gauge Railways", public transport companies operating under a franchise, and their respective employees, to the special social security scheme for railway workers instituted by the Decree of 6th July, 1967.

36. In France the following measures have been introduced:

I. TRANSPORT

No legislation or administrative regulations concerning transport co-ordination were adopted in 1969, but far-reaching reforms are at present under consideration. The contractual relationships between the SNCF and the Government would be considerably altered by an additional clause to the Convention of 31st August, 1937, readjustments to the "Articles and Conditions" governing the obligations of the SNCF and to various other regulations including the 1949 Decree on transport co-ordination, as amended.

This reform should ensure better transport co-ordination by the "normalization" (by reference to competitors' liabilities) of the costs borne by the SNCF in respect of retirement pensions, infrastructure and level crossings, and by enabling the SNCF to determine its own tariffs as freely as its competitors. The SNCF will also be a self-administered body subject only to the requirement of financial equilibrium after the "normalization" of accounts.

However, it is only in 1970 that the relevant provisions will be altered and the reforms brought actually into force.

II. ROAD TRANSPORT

A. Action taken on road freight transport

a) Transportation of perishable goods

A circular dated 15th February, 1969 has strictly enforced the application of the French regulation on the transportation of perishable goods in controlled temperatures by vehicles, devices and containers loaded and unloaded in two European countries.

This regulation defined by the Decree of 10th December 1952 and amended by the Decree of 12th December, 1958, which provides for the use of specialised equipment approved by the Administration for the above-mentioned transport applies to all transits, excluding through traffic in French territory.

The French Administration has decided from now onwards to ensure that these provisions are strictly complied with by foreign carriers, for, in the absence of international regulations, the French regulations had not been strictly enforced. Nevertheless, in the case of foreigners, the "certificats" required by the French regulation may be substituted by attestations established by the appropriate authorities in the country of registration of the vehicle or by identity cards issued by Transfrigoroute - Europe.

b) Hired Transport

The Decree of 4th June, 1969 enforces from 1st July, 1969 the Decree of 17th October, 1968 which set up a new log book for hired transport.

This document will moreover be a source of statistics. It is only required for:

- hiring for haulage;
- hiring of vehicles not over the PTCA level of 6 tons;
- exclusive hire for a long period with only one hirer.

c) Issuing of authorisations for international transport

The Decree of 29th December, 1969, defined the terms on which international road transport permits granted to France governments with which bilateral agreements had been concluded will be issued to French undertakings after 1st January 1970. From now onwards the Préfets will be responsible for issuing these permits.

Two Decrees of 19th August, 1969 have amended the regulation concerning the CNR and the GPR. These Decrees have amended details of the membership of the Comité National Routier (National Road Committee) and the elections of the Groupements Professionnels Routiers (Professional Road Transport Groups).

B. Road Passenger Transport

In 1969 no regulations were introduced concerning urban and inter-urban passenger transport. The Government continued to close a certain number of unremunerative railway lines and replaced them by road passenger services.

This operation began in 1968 and in 1969 involved 200 lines, representing 9,202 km.

In order to ensure the same service to passengers, the SNCF rates, including the various reductions, remained unchanged.

III. WATERWAYS TRANSPORT

As regards waterways transport, the Decree of 11th June, 1969 concerning capacity can be better adapted to the needs of transport.

37. In Ireland, under the Transport Act, 1969, provision was made for additional E Exchequer capital advances to Cbras Iompair Eirann (CIE), the national transport undertaking, to supplement the Company's depreciation provisions in 1969-70 and subsequent years. The annual grant payable to CIE by the Exchequer to meet CIE's revenue losses has been increased from £2 million to £2.65 million with effect from 1969-70.

38. In Italy, no general or legislative measure was introduced in 1969 in the framework of transport co-ordination. However, a bill on road passenger transport was drawn up and submitted to Parliament. In addition, a Ministerial Commission undertook a study on the reform of the 1955 Act on goods transport.

39. In Luxembourg, two Acts of 24th December, 1969 amended Article 4 of the Act of 16th June, 1947, on the operation of railways in the Grand Duchy and Article 8 of the Conditions of Contract of the Société National des Chemins de Fer luxembourgeois (National Luxembourg Railways). These two Acts concern the introduction of the Added Value Tax on 1st January, 1970.

Efforts have continued to co-ordinate road transport with a view to nationalising both road and rail transport and consideration is being given to the harmonization of the various existing tariff systems.

40. In the Netherlands, the idea of setting up general regulations for scrapping inland waterways developed to such an extent in 1969 that a bill may be submitted to the Netherlands Parliament soon after the end of the period under review.

A bill was presented to Parliament during the period in question for the abolition of the turn system applied for many years in the national waterways system.

The policy of the Netherlands Government is to operate the railways by means of an independent undertaking organised on a commercial basis. A total of Fl. 70 million were included in the 1969 budget towards public service obligations of the Netherlands Railways (Nederlandse Spoorwegen). The 1969 Budget also includes an item of Fl.15.4 million for expenditure on road/rail crossings and Fl. 94.4 million for retirement pensions.

In this context, it is important to note that the Commission of the European Communities on 17th and 18th March, 1969 approved two regulations fixing the rates of compensation for railway public service obligations and for the normalisation of their accounts. The compensation granted to the Netherlands Railways for expenditure on these services will from 1st January, 1972 be covered by a regulation on public service obligations.

41. In Portugal some progress has been made on the normalisation of railways accounts and on studies which are now almost completed on the adoption of a regulation on international road transport (regular and occasional services).

Studies have also been made on the financial situation and co-ordination of the operation of urban and suburban transport in Porto.

42. In the United Kingdom the following Acts were passed in 1969:

Transport in London

During 1969 the government passed legislation which marked a major step forward in co-ordinating the organisation of transport in London. This was the transport (London) Act 1969 which became law in July 1969.

Under this Act, the Greater London Council (GLC), a single local authority already responsible for the strategic planning of the 620 square miles of Greater London, assumed responsibility for the main public transport operator in the area - London Transport. From 1st January, 1970

the existing London Transport Board - a nationalised body - ceased to exist. Its underground and surface railways and central (red) buses which operate within the Greater London Area were handed over to a new London Transport Executive (LTE). The policy for the operations of this executive is laid down by the Greater London Council. The Council's job includes appointing members of the Executive: the Executive is responsible for day-to-day management. Other buses formerly operated by the now defunct London Transport Board (mainly outside the boundary of Greater London) were handed over to the National Bus Company, a nationalised body the subsidiary companies of which operate passenger services in many parts of England and Wales.

The Act also strengthened the powers of the GLC in relation to highways and traffic and included a controversial but, in the opinion of the Government and the GLC vital provision for controlling London's off-street public car parks in the interests of traffic management.

The Act was promoted in agreement with the Greater London Council. Since the Council are now to be responsible for public transport, highways and traffic throughout their area, they will be able to work out effective and comprehensive policies for the whole field of transport planning, operations and financing.

Passenger Transport

During 1969 the Minister used his powers under Section 9 of the Transport Act 1968, which provides for securing the provision of a properly integrated and efficient system of all types of public passenger transport to meet the needs of a particular area, and designated four Passenger Transport Areas and at the same time established an Authority for each area. These Passenger Transport Areas are four of the main conurbations centred on Birmingham, Liverpool, Manchester and Newcastle-upon-Tyne.

Apart from an Authority for each area, there is also an Executive. The Authority is responsible for general policy while the Executive is responsible for day-to-day management and operation within the framework of the policy laid down by the Authority. The Act provides for the transfer to the Executive of any road passenger transport, ferry or railway undertaking belonging to a local authority within the designated area. The transfer of all such undertakings to the Executive has taken place in each of the four areas mentioned.

Goods transport

No completely new measures for the co-ordination of goods transport were taken in 1969. The measures mentioned in the 15th Annual Report have now been fully implemented.

43. No general measures were introduced in Switzerland in 1969 in the framework of transport co-ordination. The main lines of a new general transport policy were the subject of a preliminary report at administrative level.

Chapter III

RAILWAY PROBLEMS

A. FINANCIAL SITUATION OF THE RAILWAYS

a) General activities

44. The financial problems of the railways have been a matter of concern for the Council of Ministers for many years. Previous reports show the efforts made by the responsible authorities to improve this situation, to which, moreover, the Assembly of the Council of Europe has drawn special attention on several matters.

45. It was decided, as already indicated in the 15th Report, after a detailed analysis of the development of the main factors affecting the situation of the railways or forming the economic context in which they are placed, to make a number of long-term studies.

These were:

- development of the concept of public service;
- forecasting of future traffic patterns;
- cost analysis;
- optimum dimensions of networks; and
- investments.

In addition studies were made on:

- the effects of containerisation on the railways;
- the profitability of ancillary railway services and the alignment of rates and costs; and
- railway through rates.

More recently, as stated in the previous Chapter, the Council when discussing general transport policy decided to pay special attention to the promotion of international rail traffic and to outline various contributory measures.

46. The development of the concept of public service was dealt with in 1968 and the 15th Report gave the recommendations approved stating that the Council of Ministers had instructed that the study on public service obligations should be broadened within the general framework of transport policy.

47. In 1969, three reports were submitted to the Ministers and approved (see Part II).

48. The first deals in depth with the alignment of rates and costs, defining the problems and showing the need to choose rail transport objectives. It emphasizes the need for more commercial freedom in rail transport, that it should be used to the maximum, bearing in mind the value of the service for the users, but that the process is distorted in an entirely free market by the effects of infrastructure, taxation, staff management and methods of financing.

The Report shows the need to harmonize the use of infrastructure and the importance of co-ordinating the basic conditions. Rates usually include marginal cost and an element of profitability linked to the volume of demand but the liberalisation of tariffs should be limited if monopolies are to be avoided. Among the recommendations are those concerning the improvement of the calculation of costs.

49. The second Report deals with the impact of containerisation on railways. Although based mostly on the experience of the freightliners in the United Kingdom it shows nevertheless that there was a broad discussion in which in particular a representative of the Intercontainer Society took part.

The Report emphasizes that containerisation must not be expected to answer all the problems facing the railways and sets out the following two points:

1. The basic container service ensuring a link from door-to-door should

enable the railways to regain part of the traffic they have lost while providing a satisfactory return on capital invested;

2. It would be regrettable, therefore, if governments and rail administrations did not take advantage of the new possibilities. A study should be undertaken on traffic flows.

50. The third Report deals with cost analysis and sets out the advantages of a systematic method of analysing costs. The various methods used in Europe are described in the Annex but no assessment is made of their respective merits.

Cost analysis is a very specialised method which is subject to change and should be applied to rail administration operations regularly and continuously. Railways are in fact important industrial undertakings and governments should be able to determine or concentrate resources to obtain the maximum profit from investment. Railway administrations should also decide in what sections they should limit their activities or even abandon them. They should be compensated if they have to operate on an unremunerative basis, and cost analysis makes it possible to decide how such compensation can be made.

Cost analysis can be used to decide on the measures to be taken. The Resolution adopted on the basis of the Report sets out the main conclusions and recommends the systematic use of cost analysis.

At present when cost analysis is strongly influenced at national level by the type of relationship between railways and governments the methods used in the different countries vary. It is to be hoped that one day they will be brought into line and it will be easier to compare national situations.

51. The study of future rail traffic patterns continues and is almost completed. Last year certain difficulties arose which had been wrongly considered to be due to the reticence of the organisations to which the ECMT had appealed. Far from this being the case, the Conference has had the full co-operation of the UIC and the OECD, for which it wishes to express its gratitude. The difficulties mentioned were due to lack of the required statistics. The document presented will therefore be mainly qualitative based on the forecasts of trends in the major sectors of production (Energy, Agriculture and the Chemical industry, etc.).

52. The promotion of international rail traffic represents an extremely wide and varied field of action. Preliminary studies have resulted in classifying the problems in four main categories, namely:

a) simplification of administration;

b) commercial policy of the networks (co-ordination of services, flexibility of rates, creation of a European tariff scale and alignment of rates and costs);

c) improvement of the quality of the service (increase in commercial speed, improvement of berth facilities and wagon lits etc.);

d) technical problems (allocation of wagon capacity, promotion of unit trains and standardization of equipment).

A programme will be drawn up shortly to assign priorities and allocate the work according to the scope and activities of other governmental and non-governmental international organisations.

b) Normalization of accounts

53. The ECMT reviews each year any developments in the normalization of railways accounts, a procedure which it has advocated on several occasions, particularly in its 1957, 1961 and 1967 Reports on the financial situation of the railways. The review shows for each country individually the liabilities which are not an intrinsic part of their present function and places them in the context of national undertakings. It makes it possible, in particular to apply one of the basic principles of general transport policy which is equality of treatment between the various forms of transport.

54. Annex III of this Report gives certain data on the normalization of accounts provided for 1968 by the International Railways Union (UIC).

This annex covers both normalization claims, i.e. the railways' own estimates of the compensation due to them and normalization grants, i.e. the compensation claims actually accepted by the member countries within the framework of their respective transport policies.

55. Seven member countries of the ECMT introduced normalization of accounts in 1969

paying subsidies or indemnities to their railways on terms set out below. In Switzerland, also, the problem of indemnities in connection with railway services benefiting the general economy is under consideration. The Minister concerned is drafting provisions for submission to Parliament at an early date.

The figures show that Luxembourg only meets claims in full.

The difference between the normalization granted and the claim has increased appreciably in the Netherlands from 0.56 to 0.99; in other countries there is a slight fall. This shows that governments are anxious not to extend without due reason the list of provisions to be normalized and take care to ensure that the balance-sheets are accurate as indicated, moreover, in Resolution No.423 of the Consultative Assembly of the Council of Europe.

56. Developments in the normalization of accounts in 1969 are given below.

57. In Germany, DM 39.7 million were allocated to the Bundesbahn which unlike other transport services grants allowances for children of railway workers. In addition to the payment of DM.420 million to repatriates, people of West Berlin and war casualties the State has paid DM 774 million to the railways for abnormal structural services. DM.170 million have been paid to meet the expenditure of operating and maintaining level crossings. DM.428 million have been allocated to the Bundesbahn to offset the deficit on passenger traffic benefiting from social tariffs.

The State has undertaken to contribute DM.186.9 million to service loans raised for increasing the capital of the Bundesbahn.

58. In Austria new legislation concerning the Federal Railways provides for compensation of costs incurred by them in respect of retirement benefits, tariff reductions granted on social grounds and subsidised rates. A Federal Government grant of S. 1,700 million for retirement benefits will be paid yearly during the period 1970-1973. The Federal Minister of Transport and State-Controlled Industries and the Federal Minister of Finance will make proposals for subsequent years. To cover losses of income due to reduced tariffs which are not economically justifiable, provision for an allocation of S.350 million is to be made in the budgets for the years 1970-1974, after which the Federal Minister of Transport and State-Controlled Industries and the Federal Minister of Finance will make yearly proposals as required.

59. In Belgium a Working Party was set up on the initiative of the Ministry of Communications to examine practical procedures for applying Regulations Nos. 1191-69 and 1192-69 of 26th June, 1969 of the Council of Ministers of the European Communities concerning the obligations of public service and the normalization of accounts.

60. In Spain, the RENFE has introduced a separate account for certain items of expenditure unrelated to operating costs. These items cover, in particular, the 4% contribution to a Mutual Aid Fund paid by the RENFE (for which there is no equivalent in the National Social Security Scheme) and various appropriations designed to trim down the labour force.

The RENFE's intention is that expenditure entered in this special account should be met from public funds.

The measures taken resulted in the departure of 11,004 employees, as follows:

Early retirement	7,326
Permanent retirements with special compensation	404
Special paid leave	3,274

61. In France, no new measures concerning the normalization of accounts were adopted in 1969.

The differences in the amounts paid under this head for 1969 are due to changes in traffic and economic trends.

62. In Italy, no new measures were introduced in 1969. In accordance with the regulations in force, Italian railways have received the following reimbursements:

L. 31,300.00 mil.	for reimbursement of costs in respect of free transport, tariff reductions and postal transport (Act No.1155 of 29th November, 1957);
L. 27,700.00 mil.	for subsidising unremunerative lines (Act No. 1155 of 29th November, 1957);
L.121,981.60 mil.	for covering the deficit on the pension fund (Act No. 1988 of 29th November 1962);

L. 45,122.30 mil.	for the reimbursement of yearly redemption payments in respect of loans raised for the financing of railway investments (Act No. 211 of 27th April, 1962);
L. 4,335.10 mil	for the reimbursement of yearly redemption and interest payments in respect of reconstruction loans (Act No. 1155 of 29th November, 1957);
L. 686.70 mil.	for reimbursing yearly redemption payments on loans raised to finance part of the deficits for the financial year 1963-1964 and the second half of 1964 (Act. No. 1424 of 31st October, 1963 and Act No. 444 of 28th June, 1964).

63. In Luxembourg, allocations for normalization of accounts were as follows (provisional figures) :

a) Active staff	171,000
b) Retirement and other pensions	432,730,000
c) Dues and Taxes	2,807,000
d) Maintenance and replacements	57,455,000
e) Infrastructure and installations used in common with other forms of transport	13,245,000
f) Financial charges	48,365,000
g) Related operations	24,557,000

64. The Netherlands Government allocated Fl. 94.4 million to the Railways Pensions Fund: Fl. 15.4 million were allocated for level crossings and other installations used jointly by rail and road.

In addition, the legislation which came into force in 1968 provisionally granting financial aid to the Netherlands railways, so that they could meet their liabilities in 1969, has been extended for a year.

Finally, the Netherlands Government has allocated Fl. 70 million for exceptional liabilities.

65. In Portugal studies were undertaken with a view to introducing railway retirement and other pensions into the National Pension Scheme and a Bill has been prepared.

In addition, the principle of a State contribution to the financing of rail infrastructures of overall interest has been accepted and a study is being made on a review of the present regime for infrastructures and installations used jointly with other forms of transport.

66. In the United Kingdom normalization is not practised as such but some aspects of railways policy has the same effect.

For instance; from 1st January, 1969, the Minister of Transport is empowered to subsidise the unremunerative passenger services which he has decided to maintain for social reasons and to grant compensation for the cost of maintaining surplus tracks and signals until they can be declared redundant. In addition, the Transport Act of 1968 has reduced capital debts and substantially reduced annual interests and redemption charges.

67. In Sweden the normalization measures were as follows:

- an allocation of S.Kr. 141 million for retirement and other pensions to cover the difference between actual expenditure on retirement pensions and the amount based on the method of calculation adopted by insurance companies;
- an allocation of S.Kr. 10.5 million to cover half the yearly cost of level crossings;
- a series of contributions amounting to S.Kr. 210 million to offset the deficit on lines with a low traffic density, S.Kr. 13 million for expenditure on defence requirements, S.Kr. 8 million for suburban services and S.Kr. 20 million for employers' contributions to the health service.

Government counterclaims were as follows:

- S.Kr. 30 million for maintenance and replacements;
- S.Kr. 131.1 million for interest on public funds invested in the railways.

68. In Turkey, although there are no systematic normalization measures, the Government has partially covered operational losses. In addition, a subsidy of T.£. 73 million was granted for the tariff reductions laid down in 1969 for the transportation of straw and grass.

c) Steps taken to put railways on a more strictly commercial footing and to reduce their public service obligations

69. The steps taken in this field at national level usually involve the closure of lines to all traffic or to passenger traffic only and the complete or partial substitution of road transport services for rail. They also include greater flexibility of tariffs. The main developments in 1968 are as follows.

70. In Germany 237 km of main or branch lines were entirely closed to traffic. In addition, 3[illegible] km of line were closed to passenger traffic and were replaced by road transport services operated by the Bundesbahn and 8 km of main dual track line were converted into single track.

The Railways Order of 26th June, 1969 eased the compulsory publication of tariffs in certain cases. Under this Order the railways can make an agreement with the sender of freight independent of tariffs for the transport of goods to or from maritime ports, without obligation to publish, but on condition that the traffic exceeds 500 tons over three months and that it is for importation or exportation.

On 8th March, 1969, an amendment of the Railways Act came into force. The new measure is an important step towards independent and more commercial management. The respective responsibilities of the railway authorities and the Ministry of Transport are more clearly defined and the Bundesbahn administration therefore has much greater freedom of action.

The railway authorities are now free to submit proposals which will fulfil their obligation to run the service on a more commercial basis but would not correspond to external policy objectives. Nevertheless grounds for receiving compensation from the State have been extended and the government has shown willingness to subsidise any public service operation.

71. In Austria 14 km of line have been closed to passenger and luggage traffic and 6 km to goods traffic.

The Austrian Government's new overall approach to general transport policy provides for more flexibility with regard to the obligation to carry. A Standing Committee studied this matter in 1969 but no action has yet been taken.

72. In Belgium 15 km of single track line and 18 goods yards have been closed.

73. In Denmark numerous links with a low traffic density have been closed or converted.

74. In Spain, the Government has approved proposals submitted by the RENFE for the closure of 776 km of lines.

A programme of line closures involving 2,969 km is under consideration.

Six stations have been closed to traffic.

One hundred and ninety seven stations have been converted into halts (manned or unmanned), loading platforms or sidings.

Studies concerning the closure or conversion of 872 stations are in progress.

75. In France, 42 stopping-train services involving 1,635 km in all have been replaced by motor transport. Four other lines (95 km) have been closed without any replacement service being provided.

Rail freight services have been discontinued on 47 lines (652 km); on six of these lines (112 km) they have been replaced by road haulage services operating under the supervision and responsibility of the SNCF.

Furthermore, 207 unremunerative establishments have been closed, 142 of which handled goods traffic, 55 handled passenger services, and ten handled both goods and passenger traffic.

One hundred and one road passenger services (including the 42 mentioned above) were in operation in 1969 (69 services in 1968). The coaches ensuring these services covered 4,519 million km during the first nine months of the year (as against 3,151 million km for the same period in 1968).

The closure, in 1969, of the goods traffic lines mentioned above led to the creation of five new freight terminals on which replacement road haulage services are based. The number of freight terminals was thus raised from 105 to 110.

"All-inclusive" charges (fare as such, extra charge for a berth, refreshments) at reduced rates were introduced with the coming into service of two new trains, "La Puerta del Sol" (Paris-Madrid) on 1st June, 1969, and "Le Palatino" (Paris-Rome and Florence) on 28th September, 1969. The "Rail Europ Junior" card was introduced on 1st November, 1969. This enables young

people aged 10 to 21 to obtain a 25% fare reduction for international journeys between eight European countries, i.e. France, Belgium, the Netherlands, Luxembourg, Switzerland, Italy, Spain and Portugal.

76. In Ireland, the basic tariff structure for passenger transport remained the same in 1969, but an attempt was made to promote the use of available capacity in off-peak periods; the following measures were taken to this end:

1. Return tickets at single fare for regular travellers undertaking to make not less than 25 return journeys per annum between two specified stations.

2. Cheap weekend return fares at single fare on selected weekends during the winter period.

3. Extension of two-day return fare to three-day validity at unchanged rate of single fare plus one-third.

4. Reduction in normal weekend return fare from single fare plus one-half to single fare plus one-third.

5. Recasting of Sunday day-return fares which are less than single fare with separate scales for summer and winter Sundays.

6. Introduction of concession fare for a wife travelling with her husband representing 50% reduction for the wife on the three-day return fare.

7. Introduction of an all-year travel ticket valid over CIE rail and provincial bus services at £225 first class and £150 standard class.

8. Recasting of discount for family travel giving the equivalent of one child free with two parents and progressively improving up to a total of 50% discount depending on number of children applicable in respect of ordinary travel only.

9. Introduction of first class return valid for one month at first class single fare plus 50%.

10. Recasting of group fares for groups of ten or more adults.

Freight traffic

Measures taken to improve the railway's commercial position in 1969 included:

1. Continuation of the modernisation of major railheads.

2. Installation of gantries at key locations capable of handling ISO specification containers.

3. Introduction of liner train working between the country's main portal centres.

In conjunction with the above the "box rate" principle for the charging of container traffic was also introduced and space rather than weight became the prime consideration. This policy has resulted in significant per-ton savings for containerised traffic by rail and has had encouraging results.

1. Freight rates were increased from 6th January, 1969. The level of increase on both freight and livestock traffic was 10%.

2. Consequent on accession by Ireland to the International Conventions concerning the carriage of Goods by Rail (CIM) and the Carriage of Passengers and Luggage by Rail (CIV). These Conventions came into effect for this country on and from 1st February, 1970.

77. In Italy, the line from Carrara-Avenza to Carrara S. Martino which was not sufficiently remunerative has been closed.

The Italian railways (FS) have agreed to new travel facilities called "Rail Europe Junior".

Young persons from 12 to 21 years living in Italy, France, the Netherlands and Switzerland are allowed a reduction of 25% for international travel on the network of participating administrations.

When the new train called "Palatine" was put into service between Rome and Paris, the FS established a special tariff which provided all-in prices (rail, supplement WL or berth, as well as dinner and breakfast) which were below the ordinary rates.

78. In Luxembourg six stations were closed and road transport took over four rail passenger services.

The Luxembourg railways participate in the international "Rail Europe Junior" passenger service. The service for incomplete loads was organised to cover the whole country; two road transport centres were set up.

79. In the United Kingdom, 295 miles of line and 82 stations were closed to passenger

traffic on the basis of 25 proposals. In 14 cases they were replaced by road services.

Until the Transport Act of 1968 the railways were responsible for organising and financing the additional road services required as a condition for closing the rail services? This responsibility has now been taken over by the National Bus Company and the Scottish Transport Group. Two years after the closures when the context of a new transport system has been established it is considered logical that the services replacing rail should be integrated into their local area and come under the sole control of the Traffic Commissioners. At the end of this period the conversions from rail to road will no longer be the responsibility of the Ministry of Transport.

80. In Sweden the closure of 351 km of line was decided, of which 168.4 km were closed to all traffic and 182.7 km to passenger traffic only. Road services were provided in their place when economic conditions made it necessary.

81. In Turkey the production section of the railways movements department continues to effect rationalisation studies in the stations.

A new freight tariff based on competition and costs was prepared in 1969. If there is no objection from a policy standpoint, the new tariffs will be controlled by the railways themselves. If, however, the State should intervene in commercial policy a subsidy will be granted according to the individual case.

B. ACTIVITIES OF EUROFIMA

82. The Eurofima Company continued its activity in 1969 but in conditions which were aggravated by the disturbances on the financial markets in 1968. As in the previous years it was exclusively in Switzerland and in Germany that capital could be raised.

83. As stated in the Eurofima Report in Annex IV, the results of the 1968 financial year approved by the General Assembly on 12th June, 1969 show available capital to be Sw.Frs 6,182,398.15 which, after distribution of the maximum dividend (4%) enabled Sw. Frs.1,500,000 to be paid to the Special Guarantee Fund. The balance-sheet total rose from Sw.Frs.1,003 million at the end of 1967 to Sw.Frs.1,203 million at the end of 1968 despite various repayments amounting to Sw.Frs 74 million.

84. Financial operations during 1969 which were noticeably lower than in the previous year (Sw.Frs.195 million compared with Sw.Frs.267 million) included:

- in January 1969, a Sw.Frs.40 million bond issue on the Swiss market (nominal rate 5 1/2 % - duration 17 years plus 6 million from bank credits and own funds;
- in February 1969, a Sw.Frs.30 million bank credit (nominal rate 5.7-8% - duration 8 years) and a long-term loan raised in Germany for DM.50 million (nominal rate 6 1/2 % - duration 15 years);
- in April 1969, a second long-term loan for DM.55 million raised in Germany on the same terms as the previous loan and a medium-term bank credit of Sw.Frs.3.8 million.

85. With these resources made available to the networks, the Eurofima Company was able to finance:

- 49 diesel locomotives of various ratings;
- 5 electric locomotives;
- 13 electric sets;
- 50 coaches; and
- 2,779 wagons.

86. It should be noted that the order for flat wagons with bogies for the DB and the SNCF was made under international tender. This made possible a single order for both the CFL and the SNCB, on particularly advantageous terms.

87. The General Assembly of the Eurofima Company in June 1969, agreed, in principle, that the Society's assets should be increased from Sw.Frs.100 to 300 million. This increase will take place in 1970.

C. AUTOMATIC COUPLING

88. The problems of automatic coupling have been discussed, often at length and in detail, at the meetings of both Deputies and Ministers of the ECMT and close contact has been maintained with the International Union of Railways. This Organisation was responsible for carrying on negotiations with the railway administrations of Eastern Europe and continuing the technical studies in order, first, to produce a coupler head which can be used in the whole of Europe

and to prepare the phasing of expenditure on the equipment and, secondly, to find a solution for the stability of two-axle wagons.

89. Subject to tests, some of which are still in progress, it can be said that the UIC has achieved positive results. These should, however, be supplemented by research on existing two-axle wagons, since a solution has been found for new wagons of this type.

90. Following the procedure approved at the 28th Session of the Council of Ministers and described in the 15th Report (paragraph 74), the work at governmental level was mostly concerned with the preparation of national positions on the introduction of automatic coupling through internal discussions between the Ministries of Transport and the Ministries of Finance. At this juncture, an "economic" file was drawn up by each of the railway administrations concerned.

91. At its Autumn session, the Committee of Deputies were informed in a statement by the Director-General of Eurofima of the possibilities of obtaining loans from the Company for the considerable expenditure involved in the introduction of automatic coupling. The prospects at this juncture are comparatively favourable; since two governments will cover their own expenses, it seems that the Eurofima contribution will be likely to represent a substantial share of the investment.

92. It was not possible to come to any decision in 1969 as some countries had not finished reviewing their own position or required supplementary information. But, in December 1969, the Council emphasized their intention to take a policy decision at its next session in June 1970.

Chapter IV

PROBLEMS CONCERNING ROADS AND ROAD TRANSPORT

A. CO-ORDINATION OF ROAD TRAFFIC RULES

93. Since 1960, Restricted Group "B" of the ECMT which consists of 14 countries has been concerned with the standardization of road traffic rules and road signs and signals.

94. Having drawn up a number of provisions which the Member governments included in their Highway Code in 1966 the Group had to prepare for the World Conference which took place at Vienna from October to November 1968 to deal with problems on the same subject. It was important in fact, to safeguard, as far as possible the results already achieved. In addition, it provided an opportunity to work for an alignment of viewpoints in Europe.

95. As stated in the 15th Report, the intense activity within the ECMT bore fruit. Its studies were widely used during the Vienna Conference and most of the proposals made by the members of the ECMT were approved.

96. The texts resulting from the Vienna Conference still did not settle all European problems. Given the wide context in which they had been prepared they included stipulations which were sometimes too broad and sometimes optional and they often permitted a choice of solution.

97. It was therefore essential to supplement the World Agreement by European Agreements, specifying certain points, creating obligations and defining a jointly agreed option.

The ECMT thought it would not be right to treat the preparation of these European Agreements as its own special preserve as the countries of Eastern Europe were quite clearly affected. It was therefore decided to strive for unification embracing Europe as a whole by transferring the final discussions to the United Nations Economic Commission for Europe.

This decision was very favourably received and the ECMT texts were taken as a basis for the work.

They were finally approved as regards road traffic rules by the Ministers of Group B on 28th March, 1969 in Paris and as regards road signs and signals by the same Ministers on 10th June, 1969 at Stockholm.

The ECMT continues to prepare the discussions which are proceeding favourably at Geneva and from which definite results can soon be expected.

At the same time, it follows closely the progress of the national procedures ratifying the Vienna Conventions and is trying to narrow down if not harmonize the reservations made by various countries.

Restricted Group "B" has judged that it should now look into the amendments which should be made to the European Agreements, after their conclusion, in order to keep in step with changing requirements or techniques.

B. ROAD SAFETY PROBLEMS

98. Although the ECMT's work for the standardization of road traffic rules and road signs and signals which was dealt with previously, is in itself useful for a Europe where international exchanges are ever-increasing; it also marks an important step towards the introduction of measures to improve road safety.

The standardization of road traffic rules and road signs and signals in the various European countries will protect drivers from certain risks when they are travelling abroad; risks due either to lack of familiarity with the Highway Code in the country concerned or failure to adjust themselves to the Code which in many cases

might lead to misinterpretation or faulty reactions.

99. Apart from this aspect, a series of coherent measures are needed to improve road traffic and a Permanent Committee within the Conference is responsible for preparing them in order to submit to the Ministers the basic elements which will enable them to take the most efficient and co-ordinated action possible in their respective countries. As emphasized in previous Annual Reports the International Organisations concerned are closely associated with this work and their co-operation is necessary for the harmonization of the efforts of governmental and private bodies to overcome one of the most serious problems of modern society.

100. Until now the work undertaken in the framework of the Conference has mainly concerned a series of preventive measures to eliminate the causes of road accidents. In 1969, the Ministers took up another no less important aspect of the question which was to reduce the seriousness of accidents by providing the victims with adequate medical assistance.

Obviously the speed and quality of first aid between the moment the accident takes place and when the injured person can be given medical treatment in a hospital is of major importance and is often decisive in saving the victim' s life. The practical experience gained in various countries and certain scientific studies imply that about 15% of the lives cost in road accidents could have been saved by adequate first aid on the spot followed by quick conveyance to hospital.

Bearing in mind the facts of the case and the somewhat scattered pattern of authority in this field, the Ministers of Transport considered the possibilities of co-ordinating all the ways and means available at national level in order that first-aid measures may be amplified and improved. They accordingly gave instructions for the investigation of a number of practical measures which might be applied in the Member countries.

101. In 1969, the appropriate services of the Council of Europe and the ECMT Secretariat met regularly to organise jointly a new European Conference on Road Safety Education at School. A preliminary Conférence of this kind has already been held at Paris in Octobre 1963 when representatives of the Ministers of Transport and experts from the Ministries of Education met to draw up the general framework of a school curriculum on road safety and to define its minimum requirements.

The Second Joint Conference in 1971 will finalise the progress made in the various countries and suggest new approaches to the problem both as regards the content of the curricula, the organisation of equipment and the most effective teaching methods.

A Group consisting of representatives of two bodies set up in the second half of 1969, which will continue its work in 1970 was made responsible for proposing methods of procedure for the Second Joint Conference and the subjects to be discussed.

102. Fulfilling the task it has been given the ECMT encouraged and co-ordinated the activities of the various organisations concerned to improve road safety. According to a well-established tradition, it was represented at several international demonstrations and has granted its patronage to some of them.

Chapter V

INLAND WATERWAYS PROBLEMS

103. The European Conference of Ministers of Transport has for several years prepared within the Committee of Investments an annual report on the trends in the situation of inland waterways as a whole, both from the standpoint of their equipment and their economic operations.

This information will be found in the report of the Committee of Investments in Part II of this document.

104. As shown in the 15th Report, a study on the problems involved in the adaptation of fleet capacity to needs was begun in 1968 at the resquest of trade circles, concerned at the inland waterway crisis.

This study which was undertaken in close co-operation with the Secretary-General of the Central Commission for the Navigation of the Rhine had made considerable progress at the end of 1969, which seems to imply that the Council of Ministers will be asked to consider it at its next session in June 1970.

The First chapter gives the quantitative aspect of the problem and assesses existing capacity with regards to needs; another chapter deals with the qualitative aspects of the equipment, improvements required in the services and the impact of containerisation and use of barge-carrying craft on the development of the fleet.

105. The State of progress of the work on the establishment of a new map of the European inland waterways networks seems to indicate that it will be ready in the first half of 1970.

Chapter VI

PROBLEMS OF COMBINED TRANSPORT

106. Last year's report described the main reason why the European Conference of Ministers of Transport was especially interest in combined transport and, in particular, in big container transport which has important economic repercussion be cause of its rapid development.

It would have been possible a priori merely to study this impact on the organisation of internal transport which is the ECMT's field of activity but because of the volume of overseas traffic and the overlapping of transport operations all along the line from consignor to consignee it was thought essential to endeavour to obtain an overall view of the problems. The ECMT therefore several years ago set up a forum where all the aspects of container transport or roll-on/roll-off are discussed with the international governmental and non-governmental organisations concerned.

107. Generally speaking, the reviews have shown that in this field, private initiative is and should remain predominant. But nevertheless governments should watch developments closely so that administrative barriers can be removed when necessary and a rational distribution of traffic and co-operation between forms of transport can be ensured.

108. The 15th Report gave a detailed analysis which will be found in Part II of this document.

109. The analysis shows that transport by container has continued to develop very rapidly. There has been no excess of shipping capacity and indeed, there have been warnings of over-capacity.

The standardization of measurements considered by the ECMT as being of special importance for the system's future leaves much to be desired. General adoption of ISO standards has not yet been ensured and there is reason to think that there might be big differences compared with the standards both as regards maritime and rail transport.

Certain social problems will arise from the increasing use of containers. There will probably be an inclination to employ skilled workers. This question should be studied in particular by governments.

European transport by container not handled by ports will doubtless grow increasingly important on the lines of the British freightliner system.

110. The Resolution adopted as a result of this detailed report is based on the standards recommended the previous year by the ISO and emphasizes the need to watch closely the social problems and the question of financing the considerable investment involved in the new system of transport.

Finally, reference is made to the location of transhipment centres for container transport, which will have to be conceived in a European context, avoiding duplication and unhealthy competition.

Chapter VII 1969

URBAN TRANSPORT PROBLEMS

111. The rise in population in town centres and their suburbs and the continued increase in the number of private cars in these areas has raised increasingly serious travel problems. Realising this situation the ECMT has studied the various aspects of this question and its possible trends.

112. In this context, the Council of Ministers at its 30th Session approved a Report and a Resolution on the short and medium-term measures envisaged in the ECMT member countries on urban transport.

The first chapter of this Report (see Part II) deals with urban projects involving transport infrastructure. Obviously the disparity between the increase in private vehicles and the development of infrastructure is one of the fundamental points of the traffic problem in towns. To solve the problem at short-term very large investment is required. To avoid waste as regards the regional economy in particular and the national economy, in general, there must be co-ordination in investment. The Resolution approved by the Council of Ministers recommends the drawing up of joint plans defining the respective roles of the various forms of transport and the appropriate measures to reach the objectives.

Chapter II of the Report shows how the choice has been made between the various means of transport in the different countries. It would seem that the member countries of the ECMT have tended to use public transport to solve the problem of urban traffic. A recommendation in this sense appears in the Resolution.

Another Chapter deals with the financing of town planning and means of transport.

Finally, a last Chapter deals with the problem of parking and parking grounds in towns and their financing. The Recommendation therefore encourages the construction of parking grounds in towns and their financing. The Recommendation therefore encourages the construction of parking grounds and areas near town centres in the framework of the overall planning referred to above so long as the flow of traffic in the town centres themselves is not impeded. The use of new transport techniques is also suggested.

113. In addition, the Urbain Transport Committee of the ECMT has prepared a programme of future work and the following studies will be undertaken:

1. Co-ordination at technical and economic level of the various forms of transport in towns and their linking up with suburban and long-distance transport.
2. Financing of urban transport: study of profitability.
3. Staggering of working hours in town centres to ensure a regular flow of traffic so that the user can suitably plan his time.
4. Transport of personnel, organised by industrial, commercial or other establishments for their own needs and their impact on the profitability of public transport undertaking in towns.

The first study on the programme will be fully developed in 1970.

In addition, the Urban Transport Committee was able to collect sufficient data for exchanges of information on the creation of bus lanes. An information report will probably be submitted in 1970.

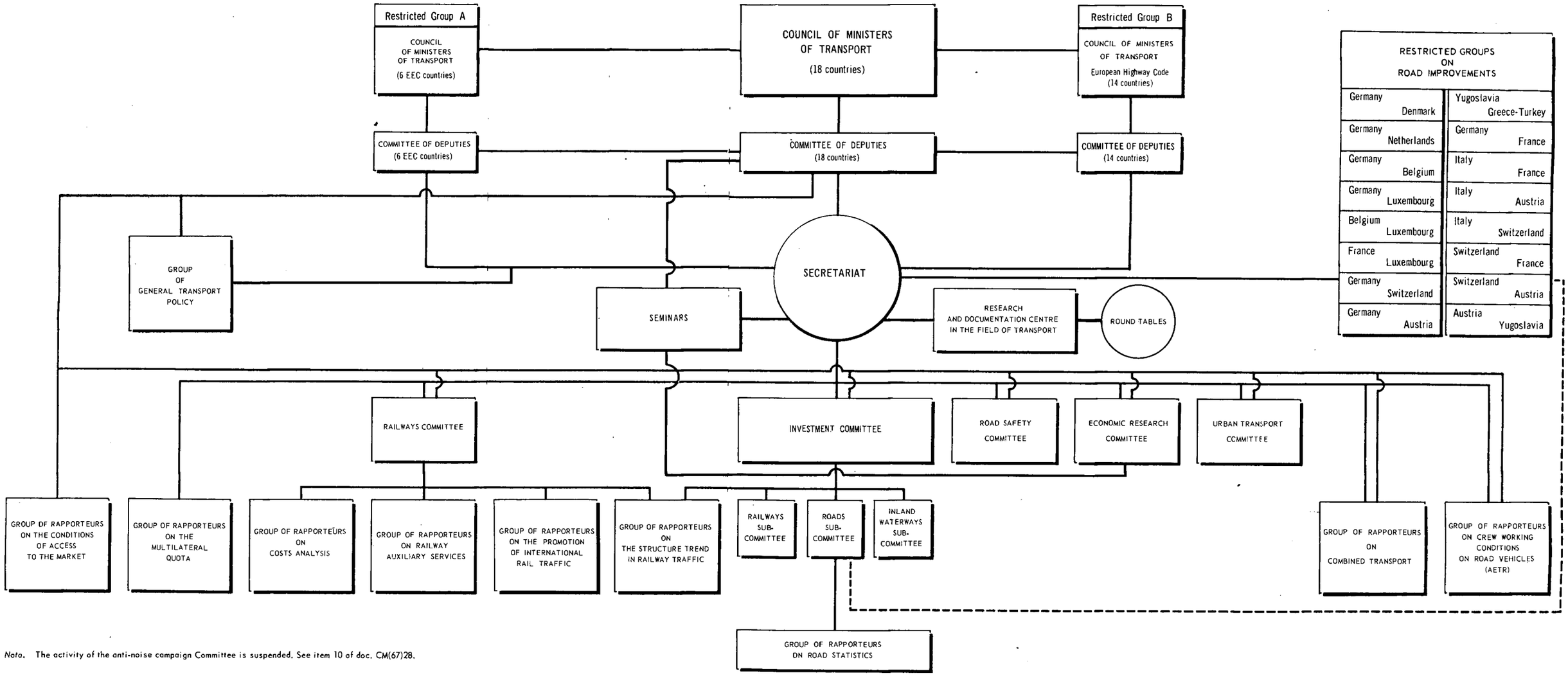
The ECMT continuing its scientific work and wishing to see it applied in practice, proposed to organise a seminar on urban transport in the first half of 1970 when the theoretical solution developed in the various scientific reports at the symposiums and round tables will be considered from a practical standpoint.

Finally, as already indicated in this report, the European Conference of Ministers of Transport, has decided to undertake in co-operation with the OECD a study of transport in new towns, emphasizing, in particular, the connection between transport and regional development.

ANNEXES

Annex I

ORGANISATION CHART OF THE ECMT FOR 1970



Nota. The activity of the anti-noise campaign Committee is suspended. See item 10 of doc. CM(67)28.

Annex II

CONSULTATIVE ASSEMBLY OF THE COUNCIL OF EUROPE

Twenty-First Ordinary Session

RESOLUTION 423 (1969) [1] IN REPLY TO THE 15th ANNUAL REPORT OF THE EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT (ECMT)

The Assembly,

1. Recalling the great importance it has continued to attach in successive resolutions in reply to the annual reports of ECMT to the latter's agreeing on common principles for a surface transport policy; noting that the 15th report itself repeatedly underlines the virtual impossibility of arriving at any meaningful solution of numerous pressing transport problems of international importance, including inter alia the question of railway finance, until further progress is achieved in agreeing on such common principles; not unconscious of the extent of the difficulties to be overcome in reconciling conflicting national viewpoints in this field, nevertheless desires to underline the heavy and continuing cost to the whole of Europe so long as agreement on such principles is not reached;

2. Expresses its grave concern at the burdens being imposed on the budget of ECMT member countries by the ever deteriorating state of railway finances;

3. While approving of the basic principle of "normalisation" of railway accounts, would deplore any enlargement of the range of items hitherto regarded as subject to "normalisation" treatment since this could result in the presentation of balance sheets failing to give a full and fair picture of the situation;

4. Attaches the greatest importance to the early completion of the railway traffic pattern forecasts on which ECMT has embarked, and regrets the difficulties wich ECMT has encountered in collecting the necessary data;

5. Warmly approves of the work being carried out by the Road Safety Committee of ECMT; believes however, having regard to the persistence of substantial differences in the incidence of road accidents in neighbouring countries, that the time has come for the committee to undertake a pooling of experience both on how to secure greater respect of traffic regulations and on steps to encourage advanced driver training, as well as on the studies now being made of how to make vehicles more secure in themselves both from the point of view of construction and from that of directional control;

6. Notes with satisfaction the advanced state now reached in securing definitive agreement on a European Highway Code, and supports the decision of ECMT to attempt to secure as wide an acceptance as possible of the Code by utilising the framework of the UN Economic Commission for

1. Assembly debate on 2 October 1969 (14th Sitting) (see Doc. 2618, report of the Committee on Economic Affairs and Development. Text adopted by the Assembly on 2 October 1969 (14th Sitting).

Europe for the final negotiations; expresses its conviction, however, that it is essential that final agreement should be reached in the very near future;

7. Continuing to welcome the work carried out by ECMT in the field of studying the administrative, legal, economic and technical obstacles which have been hindering the wider use of certain existing but comparatively new transport techniques, particularly those arising in the field of combined transport, recalls the opinion it expressed in Resolution 389 asking ECMT to review whether there are not other new and highly promising transport techniques which have not so far come into commercial use precisely because of the existence of the kind of obstacles referred to above;

8. Hopes that ECMT will take all appropriate measures to encourage such bilateral or multilateral agreements as may be calculated to lead to the suppression of international green motoring insurance cards;

9. Counts on national parliaments to fully collaborate in the implementation of the rules decided upon by ECMT and to endeavour to remove any legislative obstacles which could hinder the introduction of a common transport policy.

Annex III

EXTRACTS FROM A NOTE OF THE UIC ON THE NORMALIZATION OF RAILWAY ACCOUNTS IN 1968

(Not subjected to examination by the ECMT)

A note from the UIC on the financial year 1968 contains the following information:

a) Operating results (see Table A) expressed as an expenditure-income ratio, and not counting allowances, contributions or normalization, showed an unfavourable trend compared to that of 1967.

In all the Administrations except two (DB and JZ), income for 1968 was slightly higher than in 1967, but expenditure in all but one (DB) of the Administrations was distinctly heavier than in 1967, so that on the whole, the gross operating results were less satisfactory. This trend is due to the following adverse factors:

- rising salaries and inflation, which in several countries greatly accelerated in 1968 - the railways' small contribution to the development of total traffic - a certain fall in the value of railway goods traffic, expensive goods being preferably consigned to aeroplanes or lorries a slight overall reduction of railway passenger transport, with a few notable exceptions (Switzerland, Greece, Turkey, Ireland, Italy, Portugal, Germany) - and finally, a long period of strikes in France.
- certain rising tariff adjustments, some of which date from 1967 but which had their full effect in 1968 - and in particular, a distinct increase in railway goods traffic in nearly all the countries, with the sole exceptions of Greece, Denmark, Yugoslavia, Austria and Spain.

Table A also shows the expenditure-income ratio, counting, on the one hand, the allowances and contributions granted to the networks, and on the other, the results of the normalization claims, details of which are given in Table 1. Generally speaking, these two sets of comparative figures also show a deterioration in the calculated results. However, the results after normalization were better than in 1967 for Germany, Italy and Luxembourg where the normalized figures has risen.

b) Allowances and contributions granted by public authorities under normalization arrangements differed from those for the previous year as follows:

Germany: Payments by public authorities under normalization of expenditure rose from DM 832.3 million to DM 836 million. The increase in contributions for financial charges (DM 34 million) corresponded to the expense incurred by certain loans for increasing the DB's capital. On the other hand, payments for retirement benefits were appreciably lower, falling from DM 645 million to DM 614 million.

Austria: For the last time, no allowance was granted for items of normalization claims.

The legislation governing the Federal Railways, and which came into force in 1969, will in the future lead to a substantial improvement.

Belgium: The contribution paid to offset expenditure rose from B.Frs 3,053 million to B.Frs 3,092 million. This change is due to increased items in respect of retirement benefits, financial charges and road crossings. On the other hand, payments for remuneration and medical insurance were appreciably lower.

Compensation for tariff reductions and

taxes in respect of Government benefits (income sector) fell, compared to 1967, by B. Frs 45 million.

The Government granted a contribution of B. Frs 3, 300 million towards the "Fonds de renouvellement" (replacement funds), and a subsidy of B. Frs 2, 581 million for the balance of the operating account, an increase of respectively B. Frs 300 million and B. Frs 641 million over 1967.

Apart from the normalization of accounts, the Government' s supplementary payments amounted to B. Frs 6, 343 million against B. Frs 5, 381 million in 1967.

France: Allowances and repayments of charges to offset short falls in receipts in respect of compensation awarded for reduced tariffs are considered by the SNCF as corresponding to the sums due; they fell from Frs 1, 168 million in 1967 to Frs 944 million in 1968.

Government contributions to offset expenditure amounted to Frs 1, 099 million in 1968 exceeding the 1967 figure by Frs 157 million.

As for the previous financial years, no estimate has yet been possible as to liabilities in respect of public obligations for the maintenance of unremunerative lines, installations or services.

Italy: Total payments to offset expenditure rose from 139. 7 million lire to 148. 8 million lire, mainly due to payments for retirement benefits which rose from 94. 1 million lire to 102. 9 million lire.

The trend is similar in respect of Government contributions for tariff reductions corresponded and for other receipts to be normalized. The calculation of losses on lines of low traffic density is not based this year solely on a minimum operating ratio, but also on the unremunerative lines which should normally be closed down, not taking into account their operating ratio.

Luxembourg: For receipts, allowances rose from LF. 181. 2 million to LF. 295 million. The normalization of passenger receipts was established on the basis of ordinary tickets, and account was also taken of the rejection of proposals for increasing goods rates.

Ireland: As already stated in our previous reports, the Irish railways received the usual yearly grant, on a lump-sum basis, which is mainly intended to cover loan interest. The balance of this sum - £ 2 million in 1968 - may be used freely by the Administration.

Sweden: Normalization for the item "Retirement pensions" - S. Kr 141 million - was established as the difference between real expenditure and the basic amount of 20% of sums paid in salaries. The Government Commission, already mentioned in our previous report, found that expenditure for retirement benefits incumbent on the different State-owned commercial undertaking represented from between 17. 5 and 25% of costs of salaries, depending on age groups within the firm. The Swedish Government is prepared to assume the charges which are higher than those inherent in private enterprise.

The operating and maintenance costs of road crossings were shared equally between the Administration and the roads budget.

Switzerland: As in previous years, the Confederation granted no actual allowance. On the other hand, since the result of the financial year showed a deficit, the CFF did not have to pay interest on the capital made available to them by the Confederation.

c) Normalization claims differed as follows from those for the previous year:

Germany: Several normalization claim items increased considerably. Tariff reductions for short-distance passenger services thus amounted to DM 1, 479, 700.

Belgium: Tariff reductions were estimated at B. Frs 4, 414 million, a slight increase compared to the previous year (B. Frs 4, 363 million).

Italy: For the Italian railways, claims for tariff reductions differed greatly, due primarily to the increase of the item concerning unremunerative lines. The total item rose from 1, 755 million lire to 2, 189 million lire.

d) Allowances and contributions actually granted as compared with corresponding claims

The proportion of normalization claims actually granted varied as follows from 1967 to 1968:

	1967	1968
Germany DB ...	0.45	0.45
Belgium	0.60	0.57
France	0.65	0.62
Italy	0.67	0.48
Luxembourg ...	1.00	1.00
Netherlands ...	0.56	0.99
Sweden	0.88	0.85

Conclusions

As in previous years, the conclusion to this brief analysis of the figures supplied remains true: claims of the railways were met only in a few countries and, except in Luxembourg, inadequately. Furthermore, the granting of compensation equal to normalization claims would not have resulted in balancing the budget, except for the CFF, the DB and the SJ, due to the existence of distortions of competitive conditions. It is hoped that the large-scale studies undertaken by Governments for adjusting basic conditions, and especially the problem of infrastructure costs, will produce rapid results.

Table A

RESULTS OF THE NORMALIZATION OF ACCOUNTS

COUNTRY	EXPENDITURE-INCOME RATIO					
	1967			1968		
	WITHOUT ALLOWANCES OR CONTRIBUTIONS	WITH ALLOWANCES AND CONTRIBUTIONS	AFTER NORMALIZATION	WITHOUT ALLOWANCES OR CONTRIBUTIONS	WITH ALLOWANCES AND CONTRIBUTIONS	AFTER NORMALIZATION
Germany	1.31	1.16	1.01	1.28	1.13	0.98
Austria	1.45	1.45	1.09	1.51	1.51	1.13
Belgium	1.92	1.40	1.14	1.93	1.43	1.14
Denmark	1.36	1.36	-	1.42	1.42	-
Spain	1.17	0.87	-	1.19	-	1.15
France	1.39	1.10	1.01	1.44	1.21	1.10
United Kingdom*						
Greece*						
Ireland*						
Italy	2.06	1.41	1.16	2.08	1.53	1.05
Luxembourg	1.69	1.03	1.03	1.76	1.02	1.02
Norway	1.33	1.33	1.10	1.37	1.37	1.14
Netherlands	1.20	1.13	1.08	1.23	1.11	1.11
Portugal	1.43	1.43	1.10	1.41	1.41	1.11
Sweden	1.10	1.00	0.98	1.11	1.01	0.99
Switzerland	1.00	1.00	0.96	1.01	1.01	0.97
Turkey	1.41	-	-	1.39	-	-
Yugoslavia	1.04	1.02	1.03	1.09	1.07	-

* Figures not supplied.

Annex IV

THIRTEENTH ANNUAL REPORT DRAWN UP BY EUROFIMA IN ACCORDANCE WITH ARTICLE 6(b) OF THE CONVENTION

FINANCIAL YEAR 1969

The Company's financial results for 1968, as approved by the General Assembly on 12th June, 1969, are as follows. The accounts for that financial year showed a gross profit of Sw.Frs 6,182,398.15. It was thus possible, after making the usual transfer to the ordinary reserve, to distribute a statutory maximum dividend of 4% to all shares and to pay Sw.Frs 1,500,000 into the special guarantee reserve. The total amount in the balance sheet increased from Sw.Frs 1,003 million at the end of 1967, to Sw.Frs 1,203 million at the end of 1968 despite loan repayments, loans and bank credits amounting to Sw.Frs 74 million.

In 1969, EUROFIMA did not achieve a volume of operations equivalent to 1968, owing to grave perturbations on the financial markets. It was however able to finance the following new operations for large amounts of rolling stock for Member Administrations.

The Company's twelfth public loan on the Swiss market, amounting to Sw.Frs 40 million, was issued in January on the following terms: nominal rate 5.5% - duration 17 years, with four years' deferred redemption - net issue price: 99.25% (including 0.60% representing half the stamp duty chargeable to the subscriber).

With the net product of the public loan, plus two bank loans in Swiss Francs and its own funds, the Company had available Sw.Frs 46 million.

Nine administrations took part in this operation which enabled the following rolling stock to be ordered:

DB	- flat bogie wagons
SNCF	- flat bogie wagons
FS	- two-axle covered wagons
SNCB	- bogie wagons for transporting coils and two-axle wagons for transporting powdered matter.
NS	- gravity-discharge bogie wagons
RENFE	- two-unit electric trains
JZ	- 1st and 2nd class passenger coaches
CP	- 1st class passenger coaches
OeBB	- two-axle covered wagons

Flat bogie wagons were supplied to the DB and the SNCF following international tenders. These tenders enabled EUROFIMA to place a single order in which the CFL participated, and which was afterwards increased to allow for SNCB participation.

It is interesting to note that EUROFIMA, in this case, was able to procure the same type of wagon for several of its members (4 networks), and thus, at the same time, increase the production line, showing that it could both advance orders for standard equipment and obtain particularly favourable prices through international competition.

In February, the Company first obtained a Sw.Frs 30 million bank loan on the following terms: nominal rate 5 7/8% - duration 8 years - repayable in six annual installments, with 2 years' deferred redemption.

The nine administrations that took part in this operation ordered the following rolling stock:

SNCF	- 1,960 HP Diesel locomotives
DB	- 1,100 HP Diesel locomotives
FS	- flat bogie wagons

SNCB - flat bogie wagons and two-axle covered wagons

NS - gravity-discharge bogie wagons

RENFE - two-unit electric trains

JZ - bogie tank wagons

OeBB - two-axle covered wagons

CP - 1st and 2nd class passenger coaches.

Secondly, the Company raised a long-term loan of DM 50 million in Germany on the following terms: nominal 6.5% - duration 15 years - repayable in 13 annual installments, with two years' deferred redemption - net issue price: 99 3/8%.

Six administrations took part in this operation which enabled the following rolling stock to be ordered:

SNCF - 825 HP and 1,400 HP Diesel locomotives

FS - two-axle covered wagons

RENFE - two-unit electric trains

JZ - covered bogie wagons

OeBB - two-axle covered wagons

CP - 1st class passenger coaches

In April, a second long-term loan of DM 55 million was raised in Germany on the same terms of rate and duration as the previous loan, but with a net issue price of 99 1/8%. These funds were used to finance the following rolling stock:

SNCF - 4,000 HP electric locomotives and 825 HP Diesel locomotives

FS - two-axle covered wagons

RENFE - two-unit electric trains

JZ - open bogie wagons, flat bogie wagons, two-axle covered wagons and wagons for transporting automobiles

CP - 1st and 2nd class passenger coaches and covered goods wagons

OeBB - 2-axle covered wagons

A medium-term bank loan of Sw.Frs 3.8 million, also in April, enabled the SNCB to benefit from the order for flat bogie wagons, a result of the abovementioned international tenders.

During 1969, the EUROFIMA Company was thus able to mobilise for its members new resources representative of about Sw.Frs 195 million. With the aid of these resources, the Company has financed 49 Diesel locomotives of varying horsepower, five electric locomotives, 13 electric train units, 50 passenger coaches and 2,779 wagons, 1,312 of which were bogie wagons.

Finally, it should be noted that the General Assembly, in June 1969, adopted the principle of increasing the Company's share capital from Sw.Frs 100 to 300 million, as well as a plan for the partial redistribution of shares between the member administrations. The authorities in most of the countries concerned have, since then, given their final assent to a capital increase, and proceedings will shortly commence for this to become effective in June 1970.

Part II

RESOLUTIONS

Section I

RAIL TRANSPORT PROBLEMS

RESOLUTION N° 17 ON MEASURES CONCERNING THE USE OF COST ANALYSIS ON RAILWAYS

The Council of Ministers of Transport, Meeting in Paris, on 16th December, 1969,

HAVING CONSIDERED the report below of the Committee of Deputies on cost analysis [CM(69)25];

NOTES the conclusions set out in this report, and

DECIDES to recommend governments and railway administrations in Member countries:

- to develop and apply as elaborate as possible a systematic cost of analysis to all railways activities and to the appraisal of the return on investments;
- to recognise that cost analysis is necessary to ensure that the rules governing relationships between railways and government authorities are well implemented and in order to obtain guidance as to the changes that may be needed in these relationships;

INSTRUCTS the Committee of Deputies to review periodically the progress made in this field.

REPORT ON THE COMMITTEE OF DEPUTIES CONCERNING COST ANALYSIS ON RAILWAYS

[CM(69)25]

1. This report has its origin in Chapter G - Conclusions - of the Committee of Deputies' Report of November 1967, on the Financial Situation of the Railways, and in particular, paragraph 58.

2. In the immediately preceding Chapter F, the 1967 Report commented upon the extensive statistical tables in the preceding 95 pages. Without repeating all the information drawn from that data, which in general drew a far from cheerful picture of the current plight of the railways in most Member countries of the ECMT, a reminder of certain features is not out of place. The indices of operating receipts of the 18 countries, taking 1957 as 100, were shown to have risen to 130.9 by 1965 but the corresponding indices of operating expenditure increased over the same period to 137.9; and if the railways had not made massive investments, the index of operating expenditure would have risen much higher (of course, the interest on those investments is properly a cost to be considered in such comparisons). Other tables bore out this statistical evidence of growing costs outstripping revenue. The Committee, although they were able to point to some known factors in the generally unsatisfactory trend, found also that available statistics gave little help in identifying and quantifying the major areas of loss.

GENERAL RELEVANCE OF COST ANALYSIS TO THE RAILWAY SITUATION

3. That the growth of costs should outstrip the growth of revenue is a feature which points to the importance of systematic analysis of costs. The Committee finds more immediate cause for such analysis in certain features of the railways' situation which appear fairly general among Member countries. They are these:

a) in most Member countries, the railways system which governments believe to be necessary in the general economic and social interests of the community has greater spatial extent and/or greater capacity than can be made viable in commercial terms;

b) it is now widely accepted that, to the extent that financial loss is imposed upon the railways because they are required to maintain and operate uneconomic lines and services which are considered necessary on grounds of public policy, that loss should be borne on public funds;

c) is not generally disputed that lines and traffics which can be operated on a self-supporting basis should be managed on commercial principles;

d) the optimum extent of the system and the density of traffic are not static. The capability of adaptation to change is a necessary element in competent commercial management.

4. The Committee does not think that there is serious dispute about these four statements. They are set out above for two reasons: the first concerns the supposed conflict between the concept of railways as a social service and railways as a commercial undertaking. In fact, there is probably no ECMT country in which either of those views prevails absolutely: even where policy is most commercially orientated, there is recognition of the need for the government to concern itself with so basic a service as railway transport, and to provide some measure of support; and, conversely, even where adherence to the view of railways as a social services is firmly held, preoccupation with efficiency and economy in the management of that service remains. The four statements above, if accurate (as the Committee believes they are) are evidence

that the supposed conflict is unreal. The existence of government support and the desire for commercial efficiency are common. The second reason for stressing the above four points is that cost analysis has a direct relevance to them. The maintenance and operation of a system of greater extent, or providing more facilities, than can be covered from commercial revenue makes it extremely important to know with some precision what activities are actually being subsidised, and by how much. Secondly, in activities in which the railways are left to exercise independent commercial discretion, cost analysis is a highly valuable tool of management.

5. To pass from abstract generalisation to concrete instances of practical use, a few examples have been taken at random from several countries, and are given here.

6. EXAMPLES OF INVESTMENT PROJECTS IN VARIOUS COUNTRIES

Germany

Three possible technical methods of rationalisation by the concentration of train marshalling in a wide area involved different levels of investment and different sayings in the operating sector. The three solutions were investigated by the collection of much data and extensive calculations in the operating sector, the resulting range of figures of return on investment being 1.8, 7.5 and 14.5 per cent. It is noteworthy that the best result is linked with a relatively high investment.

Belgium

A project for extending electrification to a particular line was rejected in the light of profitability calculations.

Cost analysis applied to the rationalisation of the SNCF road terminals network warranted the decision to merge some of these terminals.

France

The doubling of the St. Gervais-Valorcine line (which serves winter sports stations) had been proposed in order to facilitate empty return runs. A study showed that amortization cost was too high, and the matter was satisfactorily dealt with by a better adjustment of operating arrangements.

Furthermore, as part of the organisational project for the Paris area, plans had been made for the construction of a fifth two-way track on the Paris (Austerlitz)-Choisy line. The organisation of a traffic control facility made it possible to dispense with this construction project, or at least to postpone it for several years.

The Macon-Cluny line (a local service duplicating the Paris-Lyons main line) lies across the alignment of the Paris-Lyons A6 motorway. In the light of an analysis of the consequent losses on operating account, it was decided that, in order to dispense with the construction of a very large engineering structure, the SNCF should receive from the State, as builder of the motorway, a fairly substantial lump sum payment, but appreciably less than the cost of the structure.

The Netherlands

Information obtained by cost analysis has made it possible to trace an exact picture of the results in the freight transport sector and also to prepare the re-structuring of operations in this sector.

The United Kingdom

All investment projects requiring the approval of the Minister of Transport must be supported by exhaustive cost analysis.

This is to establish that the project meets the Government's investment criteria, vis, that the project has a positive net present value, with future costs and gains discounted at 10 per cent per annum.

EXAMPLES OF THE APPLICATION OF COST ANALYSIS TO DECISION-MAKING ON PARTICULAR CLASSES OF TRAFFIC

Germany

It was widely advocated that the German Federal Railways should abandon sundries traffic. The DB therefore investigated, in 1960, the costs and receipts to establish whether the abandonment of sundries traffic would improve the railways' financial out-turn. As a result, it was ascertained that sundries traffic still covered a substantial part of the overhead costs attributable to it, and hence its abandonment would lead to a deterioration in the overall financial results of the undertaking.

Belgium

A study designed to ascertain whether less-than-wagon-load traffic should be discontinued showed the advisability of retaining it.

The Netherlands

Cost analysis has led to the decision to discontinue luggage transport in passenger trains; such transport was inconsistent with the measures taken to improve the standard of service.

EXAMPLES OF THE APPLICATION OF COST ANALYSIS TO DECISIONS CONCERNING NEW SERVICES

Germany

Car-passenger rail services have now been running for more than ten years, on fairly conventional lines. The services and rates offered hitherto attracted only a certain class of passengers, so traffic has not increased significantly. In order to win new traffic, the DB, will shortly increase the level of these services and offer more attractive rates. Preliminary calculation of marginal costs and marginal receipts was encouraging. The new traffic expected is such that, within certain limits, it need not wholly cover the overhead costs.

France

Freight rates for hauls exceeding 300 km have been reduced because of the lower costs that such hauls imply and in order to attract traffic.

A standing component has been introduced in passenger fare scales to encourage long-distance travel involving lower costs.

EXAMPLES OF THE APPLICATION OF COSTS ANALYSIS TO DECISIONS CONCERNING TRAFFICS

Germany

The introduction of competitive rates for mineral oil traffic is to be submitted for approval. On the route which has been investigated, traffic is carried by a competitor, and the railways' rate will have to be adapted to the competitor's rate. This rate will not cover costs in full, and marginal costs are being examined to see what contribution the new traffic will make to the overhead costs.

Belgium

Cost analysis has made it possible to work out special contracts for freight traffic.

France

Demurrage has been studied by reference to the time of the year and this has led to reduced rates for off-peak periods.

EXAMPLES OF THE APPLICATION OF COST ANALYSIS TO DECISIONS CONCERNING LINE CLOSURES

Germany

Investigation of a lightly-trafficked line showed that the receipts obtained did not cover the full costs. The line is in deficit. Analysis of costs and receipts showed, however, that the abandonment of all traffic would lead to a deterioration of the railways' overall financial results. This deterioration would, however, not occur if goods services were simplified and passenger services increased. This measure was decided upon.

The United Kingdom

Cost and revenue analyses have been prepared for over 200 separate passenger services which were proposed for grant-aid from the Government. Whilst the Government agreed to pay grants in respect of most services, and in others it refused grant, thus leading the Board to initiate closure proceedings.

LASTLY, TWO EXAMPLES (CONCERNING FRANCE AND THE NETHERLANDS) MAY BE GIVEN OF THE APPLICATION OF COST ANALYSIS TO STUDIES CONCERNING, FIRST, REPLACEMENT SERVICES AND, SECONDLY, SUBSIDIES ALLOCATED TO THE RAILWAYS

France

To cater for an industrial area lying on the right bank of the Yonne, it would normally have been necessary to rebuild a broken bridge. Traffic analysis and the capitalisation of costs showed that it was a better proposition to serve this area with wagon-carrier road trailers (pending containerisation).

The Netherlands

Compensation to the Netherlands Railways

for the continuance of uneconomic passenger transport services is based on cost analysis in accordance with the principles of the EEC regulations on action taken by member States with regard to obligations inherent in the concept of public service.

CURRENT TECHNIQUES OF COST ANALYSIS ON RAILWAYS

7. Costing systems are widely used in large-scale industrial undertakings, both in the public and in the private sector. Their application to the railways presents certain difficulties, due to specific characteristics of the structure and operation of a railway system. This has not prevented railway administrations from evolving techniques of greater or less sophistication, adapted for application to the railway industry. The Committee did not consider it to be their function to produce a treatise on the theory and practice of cost analysis, nor to discuss supposed shortcomings in the methods employed by one railway administration or another. It thought it more useful to point to ways in which costing systems can be of value, and also, by comparing the methods employed in several member countries, to see their relevance to particular features of the railway/government relationship in those countries. This relationship is itself, of course, a major element in the general transport policy of the country concerned. As will be seen below, the government/railway relationship strongly influences the form of cost analysis applied; conversely, the results of cost analysis also influence - or certainly ought to influence - that relationship, and thus influence transport policy. That is an additional reason for taking care to ensure that the method of cost analysis used, and its application, are as reliable as they can be made.

METHODS OF COST ANALYSIS APPLIED

8. The Committee have obtained details of cost analysis methods applied by the railways in Belgium, France, the Federal Republic of Germany, the United Kingdom, Italy, the Netherlands and Sweden. Fairly detailed descriptions of the systems applied in those countries are given in the appendix. Later in this report (paragraphs 10 to 14) the main features of those various approaches to cost analysis are briefly outlined, for purposes of comparison. It is assumed that cost analysis, by one technique or another, is applied by virtually all railway systems in member countries. Cost analysis serves, or should serve, two main objects: to provide essential information for the commercial decisions of railway administrations; and for enabling the policies of governments in relation to the national railways, and the financial consequences flowing from those policies, to be based as far as possible upon objective data. The two aims are, of course, inter-related.

9. The methods of cost analysis employed by the railway systems of which the Committee have been given particulars vary, as would be expected. In any costings system, the methods employed, and the degree of accuracy which is required, depend on the use to which the costing data is to be put. Insofar as the object is to provide information as a basis for managerial decisions within the undertaking, the aims appear to be common. For example, on most European railways, analytical costing is used to measure the relative profitability (or unprofitability) of various classes of traffic. The aim is to find how the revenue from a particular traffic is related to the directly allocable costs, plus a more or less arbitrarily determined allocation of other costs. As a commercial aim, the railway will, of course, normally seek to recover both these types of cost in respect of each individual traffic, but full recovery of the other costs is not always achieved.

10. National variations in methods of costs analysis applied by railways are greatly influenced by the nature of the financial relations between railway administrations and their respective governments. In a situation where railways have to depend upon financial support from public funds, the conditions upon which that support is given and the specific purposes which it is intended to serve necessarily accentuate the importance of firm data in particular areas of costs. The way in which the basis of subsidy influences the costing methods employed for broad policy-making purposes can be clearly illustrated by the examples below.

11. The United Kingdom Government has decided to pay grant to British Railways in respect of unremunerative passenger services whose retention the Government thinks desirable for social or economic reasons; most of these are stopping services but a number of secondary express or semi-fast trains are also grant-aided. Other traffics do not produce a surplus from which the cost of the grant-aided services can be supported and the Government has accepted that grants must be based on the full cost

of providing them. Where the capacity of the infrastructure does not exceed the needs of the grant-aided service, the whole of its cost is borne by that service whether any other services make use of the infrastructure, etc., which is thus subsidised, or not. But this is exceptional, in most cases the grant-aided service bears an allocation of the cost of facilities shared with other traffics. Such other traffics are not expected to contribute directly to the subsidised traffics. The consequence of this basis of subsidy is that the grant-supported services must be costed as accurately as possible. Freight services, on the other hand, receive no support; the road network and the development of the road haulage industry are such that, if the revenue from railway freight traffics cannot cover their costs, the traffic can pass by road, and no objection is seen to this happening. Thus, the costing of freight services and non-grant-aided passenger services is only relevant to the subsidy to the extent that those services bear part of the cost of facilities shared with the grant-aided services. In all other respects their costing is a matter for the Railways Board.

12. Where, on the other hand, a government decides - as in Sweden - to provide support, on a geographical basis, to all traffic in certain areas, the subsidy is spread over a number of broad traffic groups, and the need for costing precision for any one of those traffics is less pressing.

13. In France, the financial relationship between public authorities (the State and local authorities) and the SNCF already necessitates a special analysis of costs of suburban traffic in the Paris area. The remainder of the deficit is met by a general subsidy, covering all other traffics without distinction. However, with the re-negociation of the present agreement, the system now in operation will be replaced by reimbursement by the State of clearly defined burdens. On this assumption, cost analysis will come to be of vital importance, especially as regards the sharing of infrastructure costs by public authorities.

14. The system of cost analysis developed by the Netherlands Railways is chiefly designed to trace loss-making factors. In the case of passenger traffic, all costs and income are assigned to the various activities in such a way as to be able to judge the profitability of each passenger traffic. Costs and income are taken from the profit and loss account, the operation of the railways being treated as a continuous enterprise using a consistent network of railway lines. In this way, the results of different activities can be compared and a check can be kept on efficiency. The Netherlands' Government does not envisage grants for freight traffic and cost analysis in this case applies only to a few major classes of traffic. It must be pointed out that the method described cannot be used as a basis for decisions concerning line closures or discontinuance of certain activities. It was designed to comply with general transport policy obligations in the Common Market, with special reference to the abolition of "non-commercial" railway services and to compensation in cases where these are kept in operation.

ANALYSIS OF INFRASTRUCTURE COSTS

15. The allocation of the railways' infrastructure costs is the area to which the greatest attention is given in most of the countries from which information has been received. With the exception of Sweden, the allocation of infrastructure costs appears to be handled on a rather more complex basis in most countries than in the United Kingdom. In Sweden, of course, the separation of geographical low-traffic sectors means that the whole of the infrastructure cost of particular lines can be attributed to the loss-making services. Other administrations adopt methods which are of the same genus as the British method, although they tend to be more complex.

16. For the Netherlands Railways the allocation of the infrastructure costs is based on the causal relation between the production of those services and costs. Passenger and freight traffic are considered to have the same value in the determination of this relationship which are joint costs to passenger and freight traffic.

A distinction is made between "capacity-cost" and "utilization-cost".

"Utilization-cost" concerns the costs, which vary proportionately with the changes in traffic volume (for example, wear and tear).

In allocating the "utilization-cost" partly technical assumptions have been used. Those costs can easily be related then to the produced gross ton kilometers.

"Capacity-cost" are costs, which do not vary with changes in traffic-volume (for example, costs for track and signalling).

Those costs are allocated by using the time that trains of different categories occupy a track section.

These definitions are derived from an EEC-study on infrastructure costs.

The principle of time occupation causes no problems in the case of production, which is regularly spread in time; but the railways have to deal with the phenomenon of an unregular scheme of services, which results in excess capacity of off-peak hours.

In order to allocate the "capacity-cost" this asks for an indication of a factor, which is responsible for the excess capacity and which has to bear the costs. As far as the Netherlands Railways are concerned this is the passenger traffic, which has time preference above freight traffic.

For allocating the capacity-cost of a certain line the maximum time occupation in a given period is taken.

Non-priority traffic (mostly goods traffic) will then in this method bear capacity cost caused by the time used in a specific section; priority traffic (mostly passenger traffic) will bear not only capacity cost but also the greater part of the cost of excess capacity. Goods trains using a specific section during the peak period will according to this system be treated like passenger traffic.

17. Turning to the general principles of costing for policy-making, the analytical method is used in most instances. In the United Kingdom, the simplicity of this method has attraction where many of the costs are to be borne by only one class of traffic. In other countries, the method of allocation used embodies features broadly similar to the United Kingdom ton-and-train-mile methods, and makes the analytical approach more convenient for the division of costs over a variety of traffics. In Germany, the DB uses a synthetic costing method for the assessment of train operating costs, but all other costs are calculated on an analytical basis. The DB has succeeded in allocating 6 per cent of its cost either directly, or "semi-directly", by apportioning cost to "causes of cost". The information of particular sources of deficit has enabled the German Federal Government to compensate the DB for the losses occasioned by the carriage of passengers at concessionary fares, such as schoolchildren. The United Kingdom has not so far attempted to subsidize specific classes of traffic contained within broad traffic categories; the basis of a subsidy in the United Kingdom is a railway passenger service, rather than some ot its traffic components. In Belgium, average costs are obtained by analysis of total operating costs, from which are derived average operating costs (cost per train-kilometre and per gross ton-kilometre haulted), and average traffic costs (per traffic unit: passenger-kilometre, ton-kilometre charged). Cost analysis in France aims essentially at defining either general average costs of different classes of traffic and of train, or the costs of particular movements.

To arrive at average general costs, movements are grouped in classes which are as homogeneous as possible, by the following stages:

- ascertainment of costs from the accounts;
- correction of these costs in order to standardize them;
- ascertainment of performance, from operating statistics;
- ascertainment of 170 separate costs, by train-kilometre and gross kilometre hauled. These average costs are then distributed according to the nature of the traffic (by direct allocation, and statistical basis, or by accounting formules).

Costs are then re-grouped according to kinds of train, of passenger, of consignment and according to destination (import, export, transit, internal).

The allocation is then checked, corrections are made and figures are balanced and totals are struck. The final objective is to establish two costs: the average general cost of a class of traffic and the quotient of related costs according to volume of traffic, and the marginal cost of a service and the quotient of increase of costs according to the number of times it is performed.

These costs are adjusted to take account of price variations by applying a price index.

Particular hauls or pricing studies are the outcome of detailed analysis of a traffic, and make it possible to draw up the balance sheet of a line, to ascertain an economic route, the profitability of means of traction and of investments.

COST ANALYSIS AND THE GOVERNMENT/RAILWAY RELATIONSHIP

18. The comparative description above of various methods of cost analysis employed

is further evidence of the relationship, already commented upon in paragraph 10, between costing systems and basis of financial support. Merely to have established that this is so is not a sufficiently important discovery to justify the Committee's work. In fact the comparison does more than this: it shows that, by varying methods and within certain limits of accuracy, costing can enable those governments which are concerned to support specific railway services to reach reasonably firm conclusions as to the cost which each function thus supported throws upon public funds. One very useful consequence is that this supplies a yardstick for gauging whether the cost so ascertained is commensurate with the benefits to the community which those functions are intended to secure; thus, in France, such calculations are used as a basis for calculating the Plan, and economic balance-sheets are drawn up when certain major capital projects in transport are launched, for instance when competition is brought about between railways and pipelines. A further consequence is that, if the costs of all services and facilities provided by the railways for reasons of government policy, and not of commercial choice is accurately measured and reimbursed, and deficits persist, their causes must be looked for elsewhere; and presumably in fields in which railway managements are competent to deal with them.

COST ANALYSIS AND COMMERCIAL MANAGEMENT

19. The other function of cost analysis, as was pointed out earlier, is to provide data as a basis for managerial decisions. The relevance of accurate costing of traffics to pricing is obvious; thus, in France, the lower limits of tariffs are set by reference to the marginal cost; this principle has made it possible to fix special rates for wagon-loads and train-loads, to move away from cross-subsidization between routes and experimentally, to vary rates so as to take account of traffic peaks. The relationship between prices and costs has been the subject of a previous ECMT report, and need not, therefore, be elaborated here. By extension, of course, this relationship between costs and rates becomes a significant element in wider policy. Applied to a traffic, or a group of traffics, it can lead to realistic appraisal of the question whether resources should be devoted to retaining, or recapturing, particular traffics, or whether to abandon them and devote the resources to other, more remunerative ends. Similarly, of course, it is highly relevant to the issue of keeping a line or a service in operation, or closing it. (This is not to say that costing data are the only consideration but without them, the grounds for decision will necessarily be incomplete. In France, for instance, the calculation of "avoidable" costs, and comparison with the corresponding cost of road transport are a decisive factor in considering the closure of certain lines to passenger traffic). Such decisions obviously lead into the field of investment.

20. It is also worth pointing out that a costing method which is determined primarily by the form of support provided by a government for the railway will not necessarily be adequate as a guide to commercial decisions, i. e. those decisions which management is constantly having to make within the field which is reserved for its independent discretion. Insofar as this is the case, the railway management, if it wishes to improve the reliability of its assessment, will need to supplement the costing system used for rationalising the basis of government financial support by additions or refinements devised entirely for internal railway purposes.

21. In speaking of these areas of independent discretion, it has to be remembered that not all the railways are at liberty to abandon certain of the traffics or services which they find it impossible to carry, or provide, except by incurring loss. Many railways are faced with a decline in traffics for the carriage of which adequate substitutes - the services of competing modes of transport - are available. Where this condition prevails, there can be no question of the railways having any substantial opportunity to exploit a monopoly situation. On the contrary, it is often probable that the price which the railway can obtain for a particular traffic will be less than the long-run, marginal costs of handling it - i. e. the costs of current resources expended, plus the cost of replacing those renewable assets which are used, in handling that traffic. In this situation two kinds of decision have to be made by railway administrations:

i) whether or not to accept the particular traffic; and

ii) whether or not to replace a particular asset, currently being used by a variety of traffics which have varying levels of long-term profitability.

Such decisions are possible only where the traffics and services here in question are

ones with which the railways are free to deal on commercial principles. There this is the case, their investment strategy should be to replace assets only to the extent which is justified by traffics which can command prices sufficient to cover their long-run marginal costs. Costing information is necessary as a basis for both these kinds of decision.

22. At point (d) in paragraph 3 above, the need for railway managements to be adaptable to changing situations was emphasized. This, of course, applies also to other modes of transport. A transport organisation's existence is one of acquiring and abandoning traffics, and acquiring and shedding costs associated with those traffics. Some modes of transport are able to acquire and to shed both traffics and costs more or less concurrently. Railways tend to suffer a considerable time-lag in this process. Their situation would be improved if means could be found of shortening the time lag between the loss, or abandonment, of a traffic and the shedding of the associated cost, whether the latter is secured by the redirection of resources or by the omission to renew assets. But the process must begin by identifying both the loss-making traffics and the costs associated with them. For this purpose managements require knowledge concerning:

i) the manner in which, at every production centre, costs vary according to changes in traffic volumes; and

ii) the characteristics, as respects revenue and as respects long-run costs, of traffics which will be at risk if volume is reduced at a production centre.

It is towards the clarification of that information that the railways' costing services should be directed.

23. CONCLUSIONS

a) This report has attempted to describe the ways in which a reliable system of cost analysis, properly applied, can reduce the area in which governments, pursuing objectives of general transport policy, and railway managements, seeking to operate their undertakings at optimum economic efficiency, have to reach decisions by intuition or subjective judgment, and can correspondingly increase the area in which they can decide in the light of ascertained and measured facts. That is not to claim that cost analysis techniques applied on any system are perfect. There are various degrees of sophistication, and methods can be progressively refined. The information in the report may stimulate experts in one administration or another to explore in more detail the advances made by their colleagues in other countries, and consider whether the reliability of their own techniques can be improved in any respect. Means are already available whereby this can be done. If the assessment in this Report of the value of cost analysis is accepted, it would seem highly desirable that the process should continue.

b) In the past, accurate costing on the railways has been hindered by the uncertainties which prevailed in certain fields, especially the allocation of long-run general costs between lines and between traffics, and the allocation of infrastructure costs between traffics, which at one time was considered to present almost insoluble difficulties. The information obtained for the compilation of this Report shows that advances in costing techniques now enable management to obtain more systematic answers to these problems.

c) The systematic application of reliable cost analysis can greatly clarify the relationship between public authorities and railways as respects those functions which the railways are required to perform in the interests of the community; it enables a clear distinction to be drawn between activities for which public authorities accept financial responsibility, and those in which railway managements should exercise independent discretion.

d) Cost analysis should, as far as possible, determine the causal relationship between production and all the relevant costs so that, when fixing the compensation for the railways' social function it will be possible to create a financial relationship between the government and the railways that will guarantee continuous and independent operation.

e) Cost analysis will also enable public authorities to judge whether the amounts paid by them are commensurate with the benefits they are intended to secure. It may on occasion reveal that the results desired can be achieved by other means than those hitherto employed (whether by different methods of railway operation, or by the use of other modes of transport), at substantially lower cost; or that the situation is, in other respects, not as had previously been supposed.

f) If, in those fields in which they are required or permitted to act commercially, the railways seriously aim at reducing their deficits through greater efficiency and a more selective approach to traffics; investment; line closures; pricing; staff deployment and so on, sophisticated costing methods are essential. Insofar as it lies with them, governments should encourage the railways to apply such methods.

g) The most refined and accurate system will produce no effects upon the situation of any railway undertaking unless there are also present the will to apply it consistently and the readiness to act upon the evidence that it affords. This applies both to railway managements and to governments. Cost analysis, to be of value, must be a continuing operation, verifying, in a changing situation, whether the assumptions on which earlier decisions were made are borne out in practice. It is a means of measuring whether the railways system is playing that part in the national transport system which it is technically and economically best able to perform, and is doing so at the lowest cost to the community. Hence it can, and should, provide data which is essential to the development of a sound transport policy.

Section III

GENERAL PROBLEMS

RESOLUTION N° 20 CONCERNING THE FORMULATION OF GENERAL RULES FOR INTERNATIONAL COACH AND BUS TRANSPORT [1]

The Council of Ministers of Transport, meeting in Paris on 16th December, 1969;

HAVING CONSIDERED the Committee of Deputies' Report below [CM(69)24] concerning the formulation of general rules for international coach and bus transport;

FINDING that, after many exchanges of views within the ECMT, the time has come to achieve some degree of liberalization for road passenger transport;

TAKES NOTE of the contents of the Report;

APPROVES the definitions of regular services, shuttle services and occasional transport as set out in the Report;

REQUESTS the Member countries of the ECMT:

- to proceed with liberalisation of occasional passenger transport services involving an outward journey under load and an unladen return run, as from 1st January, 1971, and
- to apply the control standards specified in the Report;

HOPES that the Member countries will soon be able to liberalise occasional transport services involving an unladen outward journey and a return run under load;

to this end,

INSTRUCTS the Committee of Deputies to proceed with its studies on these lines and with due consideration to the harmonization of terms of competition.

1. The French Delegation has entered a general reservation concerning this Resolution.

REPORT BY THE COMMITTEE OF DEPUTIES ON ACCESS TO THE MARKET (PASSENGER TRANSPORT FOR HIRE OR REWARD), WITH A VIEW TO FORMULATING GENERAL RULES FOR INTERNATIONAL BUS AND COACH TRANSPORT [CM(69)24]

A. GENERAL RULES

Section 1

DEFINITIONS

I. Regular Services

1. A regular service shall mean a service, operating:

- over a fixed itinerary;
- at a frequency and according to time-tables and tariffs fixed and published in advance;

authorised:

- to set down or pick up passengers at the terminal points and also, subject to the provisions of the licences issued in each country, at fixed points en route;

subject:

- in accordance with the provisions of national laws and regulations and with the conditions of the licences, to the obligations to accept all would-be passengers at the terminal points and at any other picking-up points fixed, provided that they can be carried with the normal equipment meeting ordinary traffic requirements.

2. Irrespective of the managing authority concerned, transport services shall also be deemed to be regular services if they cater for specific categories of passengers to the exclusion of others, provided that they operate under the conditions laid down in paragraph 1 above. Services of this type (in particular those which carry employees to and from their homes and place of work and school-children to and from school) shall be known as "specialised regular services".

The "regular" aspect of transport services shall not be affected by the fact that their organisation is adapted to the varying requirements of those concerned [1].

II. Shuttle Services

1. Shuttle services shall mean services organised to carry, in several journeys to and from pre-determined groups of passengers from a given starting point to a given destination. Each group, consisting of passengers carried on an outward trip, is brought back to the starting point by a later trip.

The terms "starting point" and "destination" cover the locality itself and its vicinity.

2. No passengers may be picked up or set down on the way.

3. Vehicles shall be unladen on the first inward and the last outward journeys of a shuttle service.

III. Occasional Transport

1. Occasional transport services shall mean services conforming neither to the definition of regular services nor to that of shuttle services. They shall include:

a) closed-door circular tours, that is, services conducted in such a way that, throughout the journey, the same vehicle carries the same group of passengers and brings it back to the starting point;

b) services wherein the outward journey is laden and the return journey unladen;

1. Paragraph 2 takes account of the rules set out in Article 1, paragraph 3 of the Regulation N° 117/66/CEE. This rule is binding on the Member State of the European Economic Community. It will be for the other Member countries of the ECMT to decide whether they adhere to it or not.

c) services wherein the outward journey is unladen and the return journey laden;

d) all other services.

2. Occasional passenger transport services shall not pick up or set down passengers en route except in cases where the authorities of the Member country concerned allow exceptions to this rule. Fairly frequent trips may be conducted without the "occasional" status of the transport service being thereby impaired.

Section 2

PROVISIONS RELATING TO THE LIBERALISATION OF OCCASIONAL TRANSPORT

I. Provisions relating to the liberalisation of closed-door circular tours and unladen return journeys

The occasional transport referred to in Section 1, III. 1 (a) shall be exempt as from 26th November, 1965 [1] and that referred to in Section 1. III, 1 (b) as from 1st January, 1971, from any licensing regulations in force in Member countries other than the country in which the vehicle is registered.

II. Control

1. Transport operators providing occasional transport services referred to in Section 1, III. 1 (a) and (B) shall produce a control document issued by the competent authorities of the country in which the vehicle is registered or by any duly qualified agency, whenever they are required to do so by officials appointed for this purpose. The control document in question shall be issued only to carriers who are already licensed accordingly in their own countries.

2. The control document shall consist of waybills contained in a "carnet" comprising 50 forms in duplicate with detachable top copies. Each carnet and its component waybills shall be numbered and the waybills themselves shall also be numbered from 1 to 50.

3. The control document shall conform to the model shown in Annex. Operators having access to the transport market in a Member state of the EEC may use, instead of this document, in all Member countries of the ECMT, the control document (Annex 2) specified in the European Commissions Regulation N° 1016/68/CEE of 9th July, 1968 which lays down standard forms for control documents in compliance with Articles 8 and 9 of Regulation N° 117/66/CEE of the Council.

4. The carnet shall be issued in the name of the transport operator and shall not be transferable.

5. Waybills shall be completed in duplicate by the transport operator before the start of each journey. The top copy of the waybill shall be kept in the vehicle throughout the journey to which it refers. The transport operator shall be responsible for the regular fulfilment of waybill requirements.

6. The carnet itself, together with top copies and duplicates of waybills, shall be kept by the transport operator for 12 months as from the date at which all the forms in the carnet are completed.

III. Continued validity of more liberal regulations in force between Member countries

The provisions of Section 2 shall not apply in cases where the regulations in force under bilateral and multilateral agreements between Member countries provide for more liberal treatment.

Section 3

SCOPE

The provisions of Sections 1 and 2 shall apply to international passenger transport by road performed by operators who, in their own country, have success to such transport

- from a starting point in the territory of a Member country to a destination in the territory of the same or another Member country;

- in vehicles registered in a Member country and so designed and equipped to be suitable for the carriage of more than nine persons including the driver.

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1. Resolution N° 16 (General Problems) of the ECMT.

B. REMARKS

1. The definitions in Part A, Section 1 are identical with those provisionally adopted by the Council of Ministers at its 27th meeting on 12th June in Dublin [CM/M(68)1], except for three minor drafting amendments affecting the French text only, viz:

- in Section 1, I, paragraph 2, the phrase "... au lieu de travail et de celui-ci vers leur domicile ..." replaces "... au lieu de travail et de ceux-ci vers leur domicile ...";
- in Section 1, III, paragraph 2, the term "pays Membre", commonly used elsewhere in this paper, is substituted for "Etat Membre";
- in Section 1, III, paragraph 1, (2a), the phrase "un même groupe de voyageurs et le ramène au lieu de départ ..." is now substituted for "... un même groupe de voyageurs et le ramène au point de départ ...";

This last amendment is based on Regulation N° 117/66/CEE of 28th July, 1966, Article 3, paragraph 1 (2a). The French definitions of closed-door circular tours are thus word for word the same in the ECMT and the EEC.

The suggestions made at the meeting of the Committee of Deputies on 24th and 25th April 1969 [CS/M(69)2] for the following amendments to the French text:

- substitution of the word "relation" for "itinéraire" in Section 1, I, paragraph 1 and deletion or rewording of the sentence in Section 1, III, paragraph 2,

were considered by a Group of Rapporteurs appointed to study the problem under review. The Group decided that there was no need to act upon these suggestions.

2. In the light of the discussions at the 25th meeting of the Council of Ministers, on 11th June, 1969, and at the meetings of the Committee of Deputies on 24th April and 10th July, 1969, it was found that the liberalisation of occasional transport services could only be accomplished by stages. No difficulty arises over the liberalisation of closed-door circular tours (see Resolution CM(65)17 adopted by the Council of Ministers on 26th November, 1965) or of outward journeys under load followed by unladen return runs. Such journeys, combined with the corresponding control measures, could be liberalised as from 1st January, 1971. This implies the approval of the provisions set out in this paper by all Member countries, and readiness and ability of the latter to take the necessary steps at national level (more particularly, the printing and circulation of control documents and, where appropriate, amendments to national legislation).

Though the liberalisation of the transport services mentioned above raises no difficulty, discussions in the ECMT so far have shown that the same does not apply to unladen outward journeys followed by return journeys under load. Some Delegations have pointed out that the liberalisation of unladen outward journeys, in particular, is closely bound up with the harmonization of terms of competition. In their view, unladen outward journeys could be liberalised much more quickly and easily if effective measures were soon taken to harmonize the terms of competition at ECMT level. Other Delegations, whilst recognising the value of harmonization, do not consider that a close relationship should be established between it and liberalisation.

3. To match the regulations in force in the EEC, Section 2, II provides for a control document, this being essential to protect the interests of operators of regular services, and to keep a check on occasional transport services which are not liberalised. The provisions under heading II enable both the country where the vehicle is registered and the country of destination to keep a satisfactory check on transport services. Transport operators in EEC Member countries should also be able to use the obligatory control document laid down by the EEC (see Annex 2) for journeys to ECMT countries which are not members of the EEC. This document is drawn up in the four official languages of the EEC. (German, French, Italian and Dutch). It might also be useful to introduce a simplified document in three languages, i. e. the national language(s) and English and French, for transport operators in ECMT Member countries that are not members of the EEC. The great advantage of this is that transport operators would be able to use a standard document for liberalised journeys to all Member countries. This should not involve any major difficulties as the document in question would almost entirely consist of figures and names requiring no translation. To facilitate control procedures, Member countries might also make arrangements to supply officials at all frontier crossing points with a model form drafted in the language of the country concerned.

To match the EEC procedure, the

control document should consist of a waybill "carnet" containing 50 forms in duplicate. In this way it would be possible to compile statistics covering, in particular, the volume of international transport. The actual implementation of controls would also be considerably facilited, especially for dealing with irregular practices.

4. The provisions contained in Section 2, II and III, and in Section 3 are largely based on those laid down in Regulation N° 117/66/CEE of 28th July, 1966, and Regulation (CEE) n° 1016/68 of 9th July, 1968.

The provision contained in Section 2, (2) is essential as it is an imperative requirement within the EEC.

ANNEX 1

(Cover page - front)

(Green paper - 30 x 42 cm)

Text drafted in the official language(s) of the Member country where the vehicle employed is registered

ISSUING COUNTRY

Carnet N° .....
Issuing authority or organisation

W A Y B I L L C A R N E T

For the occasional services mentioned in ..... concerning the institution of general rules for international coach and bus transport.

Name and first name of transport operator or business name of firm:

.....

.....

Address: .....

.....
(Place and date of issue of the carnet)

.....
(Stamp and signature of the issuing authority or organisation)

(Cover page - back)

Text drafted in the official language(s) of the Member country where the vehicle employed is registered

E X T R A C T

General regulations .....

(Section 1, III, Section 2, I and II, Section 3)

(Front)

(Green Paper - 30 x 42 cm)

Carnet n° .....

Waybill n° .....

(Text drafted in the official language(s) of the Member country where the vehicle employed is registered. The French and English versions of this text should be given on the other side)

W A Y B I L L (1)

(Please use block letters)

Issuing country
(Insert country symbol)

1. Vehicle

   Registration N° .....

   Seating capacity .....

2. Transport operator

   Name and first name, or business name and address .....

   .....

3. Driver(s) name(s) : 1. ..... 2. .....

4. Type of service

   a) closed-door circular tour (2) (3)
   b) outward journey laden - return trip unladen (2) (3)

5. Journey schedule

   For journeys referred to under 4(b): Passengers will be left at .....

   (name of locality and country)

Date	Stages day-by-day		Vehicles driven (4)		km per day	Point of entry at the frontier of the Member country concerned
	from	to	laden	unladen		

6. Passenger list (names and initials) (5)

1.	21.	41. .....
2.	to	to
3.		
to		
20.	40.	60. .....

7. Remarks - unforeseen changes

....

(date of issue of carnet) (Transport Operator's Signature)

---

(1) The top copy of the waybill must be kept in the vehicle throughout the journey and produced for inspection by the officials concerned when required.

(2) International services of the types listed below, operating on an "occasional transport" basis between Germany, Austria, Belgium, Denmark, Spain, France, Greece, Ireland, Italy, Luxemburg, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Turkey and Yugoslavia, with vehicles registered in any of these countries are exempt from licensing requirements in force in Member countries other than the country in which the vehicle employed is registered:

(a) closed-door circular tours, that is, services conducted in such a way that, throughout the journey, the same vehicle carries the same group of passengers and brings it back to the starting point;

(b) services wherein the outward journey is laden and the return journey unladen.

(3) Cross out where required.

(4) Put a cross (x) in the appropriate column to show whether a daily stage at the date indicated is laden or unladen.

(5) The number of passengers can be shown instead of their names if this has been agreed with the countries of destination and transit.

Remarks (and inspection visas if any).

ANNEX 2

(Cover page - front)

(Green paper - 30 cm x 42 cm)

(Text drafted in the official language(s) of the Member country where the vehicle employed is registered)

ISSUING COUNTRY
(Country symbol)

Carnet N° .....
Name of issuing authority or organisation

W A Y B I L L C A R N E T

For the occasional services referred to under Article 3 of Council Regulation N° 117/66/CEE of 28th July, 1966, concerning the institution of common rules for international coach and bus transport.

Name and first name of transport operator or business name:

.....

.....

Address: .....

.....

(Place and date of issue)

.....

(Stamp and signature of issuing authority or organisation)

(Text drafted in the official language(s) of the Member country where the vehicle employed is registered)

IMPORTANT NOTE

1. Under Article 5, paragraphs 1 and 2 of Council Regulation 117/66/CEE of 28th July, 1966 (JO N° 147 of 9th August, 1966, page 2688/66), certain international occasional transport services starting from the territory of a Member country and ending in the territory of that country or another Member country, are exempt from any licensing requirements in force in Member countries other than the country in which the vehicle is registered, provided that the vehicle (bus or coach) employed is registered in a Member country. The occasional services covered by these provisions are as follows:

A. Closed-door circular tours.

B. Services wherein the outward journey is laden and the return journey unladen.

C. Services wherein the outward journey is unladen, provided that all passengers are picked up at the same point and that they:

C 1. are covered, as a group, by contracts of carriage entered into before their arrival in the country where they are to be picked up; or

C 2. had been previously conveyed, by the same operator, in the course of a trip of the kind referred to under B above, to the country where they are to be picked up and then brought out of that country; or

C 3. had been invited to visit another Member country, the transport costs being borne by the person inviting them. Such passengers must constitute a homogeneous group not made up solely for the purpose of the journey.

2. Other occasional services which do not fall within any of the foregoing categories may be subjected to licensing requirements by Member countries, as provided under Article 5, paragraph 3 of Regulation 117/66/CEE.

3. For every journey consisting of an occasional transport service, transport operators must complete a waybill in duplicate beforehand.

Passengers names may be listed beforehand on a separate sheet which must be firmly gummed at the appropriate point under Item 6 of the waybill. The transport operator's stamp or signature, or the driver's signature, should then be so affixed as to straddle the passenger list and waybill.

In cases where the outward journey is unladen, the passenger list may be drawn up as shown above at the time when the passengers concerned are picked up.

The top copy of the waybill must be kept in the vehicle throughout the journey and produced for inspection by the officials concerned when required.

4. In the case of services involving an outward journey unladen as set out under paragraph C 1. above, a transport operator must produce supporting documents as follows:

- cases referred to under C 1. : a declaration certifying that the passengers concerned are covered, as a group, by the contract of carriage referred to under Article 5 paragraph 2(a) of Regulation N° 177/66/CEE, this contract having being entered into before their arrival in the country where they are to be picked up;
- in cases referred to under C 2. : the waybill used for the earlier trip involving an outward journey laden and a return journey unladen, when the transport operator took the passengers concerned to the country where he is returning to pick them up;

- in cases referred to under C 3. : the letter of invitation or a photocopy.

In cases where Member countries lay down licensing requirements for the occasional transport services referred to under paragraph 2 above, the licence must be appended to the waybill.

For all occasional transport services, if the operator is authorised to pick up or set down passengers on the way in another Member country, the licence certificate to this effect must also be appended.

5. The transport operator is responsible for the regular fulfilment of waybill requirements. Waybill forms must be completed in indelible block letters.

6. The waybill carnet is made out in the name of the transport operator and is non-transferable.

7. The waybill carnet is issued by the authorities concerned in the Member country where the vehicle employed is registered or by any organisation authorised to this effect.

ANNEX 2

(Front)
(Green Paper - 30 cm x 42 cm)

Text drafted in the official language(s) of the Member Country where the vehicle employed is registered. Translations in the other official languages of the EEC should be given at the back)

ISSUING COUNTRY
(Country symbol)

Carnet N° .....
Waybill N° .....

WAYBILL
(to be completed in block letters)

1. VEHICLE

Registration N° ..... make .....

Seating capacity .....

2. TRANSPORT OPERATOR

Name and first name, or business name and adress .....
.....

3. NAME(S) OF DRIVER(S): 1. ..... 2. .....

4. TYPE OF SERVICE | A | B | C1 | C2 | C3 | D | (1) (2)

Supporting documents to be produced for the following services

Services A and B: nil.

Service C1: transport operator's declaration (see item 9).

Service C2: waybill for the earlier trip involving an outward journey laden and a return journey unladen, when the transport operator took the passengers concerned to the country where he is returning to pick them up.

Service C3: letter or photocopy.

Service D : transport licence.

All the above services: if the operator is authorised to pick up or set down passengers on the way in another Member country, the licence enabling him to do this must also be appended.

5. JOURNEY SCHEDULE

Passengers picked up at .....
(locality and country)

Date	Stages day-by-day		Vehicle driven (3)		Points of entry at the frontier of the Member Country concerned (with appropriate country symbol)
	from	to	laden	unladen	

Instructions

(1) "A", "B", "C1", "C2", "C3" and "D" are the code letters for separate categories of occasional transport services as follows:

Service "A": closed-door circular tours:

Service "B": outward journey laden and return journey unladen;

Service "C1": entry unladen in order to pick up, at the same point, passengers that are covered, as a group, by the contract of carriage referred to under Article 5, paragraph 2(a) of Regulation N° 117/66/CEE, this contract having been entered into before their arrival in the country where they are to be picked up.

Service "C2": entry unladen to pick up, at the same point, passengers who were previously conveyed by the transport operator, in the course of a trip involving a return journey unladen, to the country in which they are to be picked up. They must then be brought out of that country.

Service "C3": entry unladen to pick up, at the same point, passengers who had been invited to visit another Member country, the transport costs being borne by the person inviting them. Such passengers must constitute a group not made up solely for the purpose of the journey.

Service "D": all other services. The type of service must be carefully indicated under item 7.

(2) Cross out where required.

(3) Put a cross (x) in the appropriate column to show whether the daily stage at the date indicated is "laden" or "unladen".

6. PASSENGER LIST (name and initiale)

1.	.....	21.	.....	41.	.....
2.	.....	22.	.....	42.	.....
3.	.....	23.	.....	43.	.....
4.	.....	24.	.....	44.	.....
5.	.....	25.	.....	45.	.....
6.	.....	26.	.....	46.	.....
7.	.....	27.	.....	47.	.....
8.	.....	28.	.....	48.	.....
9.	.....	29.	.....	49.	.....
10.	.....	30.	.....	50.	.....
11.	.....	31.	.....	51.	.....
12.	.....	32.	.....	52.	.....
13.	.....	33.	.....	53.	.....
14.	.....	34.	.....	54.	.....
15.	.....	35.	.....	55.	.....
16.	.....	36.	.....	56.	.....
17.	.....	37.	.....	57.	.....
18.	.....	38.	.....	58.	.....
19.	.....	39.	.....	59.	.....
20.	.....	40.	.....	60.	.....

7. INFORMATION CONCERNING SERVICE "D":

.....
.....
.....

8. ....
(Date at which the waybill is filled in) (Transport operator's signature)

9. TRANSPORT OPERATORS DECLARATING CONCERNING SERVICE "C1":

The above passengers are covered, as a group, by the contract of carriage referred to under Article 5 paragraph 2(a) of Regulation N° 117/66/CEE entered into with

..... before their arrival at .....
(country where these passengers are picked up)

....
(Date (Transport operator's signature)

10. UNFORESEEN CHANGES

.....
(Inspection visas if any: see back og this page)

INSPECTION VISAS

TRANSLATIONS

(in the other official languages of the EEC)

GENERAL PROBLEMS

RESOLUTION N° 21 CONCERNING MEASURES TO BE TAKEN FOR IMPROVING URBAN TRANSPORT

The Council of Ministers of Transport, meeting in Paris on 16th December, 1969, having considered the Report below of the Committee of Deputies on Member Countries' Short and Medium-Term Measures concerning Urban Transport [CM(69)27] :

NOTING that city traffic difficulties are increasing, chiefly owing to the growth of car ownership;

RECOMMENDS the Member countries of the European Conference of Ministers of Transport to encourage the use of public transport, this constituting the optimum means of absorbing passenger traffic, especially during peak hours, and to proceed with the renewal and gradual expansion of public transport facilities providing comfortable, fast and cheap travel in the towns;

ALSO RECOMMENDS them to promote the formulation of overall plans defining the role of each mode of transport together with the measures appropriate to this end and, within this framework, to encourage the provision of car parks and other parking space on the outskirts of conurbations, and, if the smooth flow of traffic is not thereby impeded, within conurbations themselves;

SUGGESTS the introduction of a co-ordinated policy for the pricing and promotion of urban traffic, involving a link between car park and public transport operators, and designed to encourage suburban motorists to park their cars on the outskirts of conurbations by providing them with attractive transport services for their journies to city centres;

EMPHASIZES the importance it attaches to research on new techniques;

INSTRUCTS the Committee of Deputies with studies on the financing of public transport investment that are likely to yield concrete results.

REPORT OF THE COMMITTEE OF DEPUTIES ON MEMBER COUNTRIES' SHORT AND MEDIUM-TERM MEASURES CONCERNING URBAN TRANSPORT

[CM(69)27]

INTRODUCTION

The causes and symptoms of the problem are well known and are obvious (to a greater or lesser degree) in the heavily urbanised countries. Growth of urban populations: rapid increase in the number of vehicles: serious congestions: decline in public transport.

Most of the countries in ECMT are reacting to congestion in much the same way; naturally those with the biggest cities are perhaps further advanced in their developments and thinking.

In the longer term, improvement in basic infrastructures will be necessary. In addition to building more urban roads, several countries are examining or developing new rapid transit systems for larger cities, primarily for travel to work traffic. Most of these are subsidised by central governments in one way or another. There is a limit to which these new systems will be justified in smaller cities.

But new infrastructures take a long time to develop and are very expensive. Transport systems and city structures are very slow to change radically.

This report mainly concerns itself, therefore, with what is being done or studied as regards management and improvement of urban transport systems in the shorter and medium term.

The main points that emerge are these:

i) The need for restraint of the private car in central areas. This is usually attempted by parking controls of one kind or another, though something can also be achieved by pricing policies. It is difficult to avoid the conclusion that further restraints will become necessary.

ii) The need for sophisticated traffic control systems using computers, electronics, etc. These are now being developed in several of the largest cities.

iii) The need to make public transport more attractive, partly by improving the services provided (i. e. regularity and comfort) and partly by pricing policies. In some countries attempts are also being made to give buses priority on the roads. At the same time it is necessary not to exaggerate the extent to which public transport can be a substitute for the private car for social and leisure journeys.

iv) The financial implications of public transport systems which need deficit financing (as most of them do). This is dealt with differently in the various countries; in some the emphasis is on central government subsidy, in others on the municipalities themselves. The issue here is basically whether public transport systems can become (or remain) financially viable or whether a different approach is needed.

v) The importance of cities being able to plan and manage their transport systems as a whole should not be underestimated.

PLAN OF THE REPORT

The report, which constitutes an interchange of information which may facilitate the task of each government in dealing with urban traffic problems, gives the short and medium-term measures planned by the Member countries of the ECMT [1], and is divised into four chapters: the first deals with urban infrastructure projects; the second, the choice of modes of urban transport; the third, public finance and subsidies; and the fourth with parking problems.

1. With the exception of Norway and Turkey.

Chapter I

SHORT AND MEDIUM-TERM MEASURES CONCERNING URBAN TRANSPORT INFRASTRUCTURE

Many cities have long been confronted with a traffic problem which is daily becoming more acute because of the rate of growth of the vehicle population, more particularly private cars, as compared with the development of urban infrastructures.

Local authorities have had to plan investments on a huge scale to deal with this problem and in many cases the central government itself has had to intervene.

The investments needed for improving urban infrastructures in many cities must be co-ordinated to ensure that there is no waste of economic resources at regional or national level. It is at this stage that the Government must intervene in the co-ordination of urban transport planning. In most Member countries of the ECMT central governments and local authorities have drawn up urban projects affecting whole regions, if not the entire country.

In Germany, cases in point are the "Neue Vahr" scheme at Bremen, the "Nordwest-Stadt" at Frankfurt-am-Main and Munich Parlach. For Bonn, plans for a satellite town, i. e. Meckenheim-Merl, are under consideration. All of these projects have been shaped by the desire to provide the new cities as quickly as possible with adequate public transport services (by rail, insofar as possible).

In Austria, the relevant authorities have attempted to increase the capacity of major thoroughfares by measures affecting both infrastructure and traffic regulation (traffic lights at intersections, prohibition of parking and stopping). At the same time, the public transports have been adapted to traffic conditions. A case in point is the replacement of 10 tram lines by bus services during the past few years. The 47 tram lines still in operation have been improved by providing them with exclusive tracks on streets in which this was possible. Two majors arteries have been improved by placing tram lines underground.

The Municipal Council of the city of Vienna has decided to build a metropolitan railway to meet the growing demand for transport. Work on the first section, which comprises the construction of three lines within 10 to 12 years began on 3rd November 1969, will link the "Favoriten" and "Praterstern" sections and should be ready for use within a few years.

As part of a regional planning project for Vienna and short-distance transport in its immediate vicinity, the Austrian Federal Railways had worked out an overall scheme for rail traffic. This project materialised in part with the construction of the "Schnellbahn" (Viennese rapid transit line) and operations over the connecting lines Floridsdorf-Gänserndorf and over the southern branch as far as Wiener Neustadt.

The "Schnellbahn" is a vital mode of transport for the Viennese and also for the suburban population, particularly for the workers and employees who use it to commute back and forth to work.

Vienna's rapid transit railway is already making a vital contribution to the improvement of urban transport. Its development is envisaged and two new stops in 1969 were opened.

All plans involving the "Schnellbahn' are designed with close co-operation with the other modes of public transport in mind.

In France, urban planning and regional development planning are closely linked. Examples of this are the regional metropolitan railway in Paris, currently nearing

completion, the plans under study for metropolitan railways in Lyons and Marseilles, and the more intensive use of railways in provincial towns and of segregated tracks (tunnels) for buses in city centres.

In Ireland, a number of planning studies have been promoted by the Minister for Local Government in conjunction with the National Institute for Physical Planning and Construction Research and are being carried out by planning consultants.

In Luxembourg, urban planning services under the control of the Minister of Public Works are dealing with a very large-scale urban project, the Kirchberg development scheme. Other projects are under consideration. These are mostly promoted by private enterprise and require the approval of the Luxembourg Municipality. Studies are also in progress to adapt urban networks to present and future traffic loads.

In Belgium, urban development plans are drawn up by the municipal authorities but must be linked with public transport planning. Traffic studies phased to match the time scale of urban development plans have been carried out in five cities.

In Denmark, plans have been made for another tunnel to supplement the existing one in Copenhagen.

In the Netherlands, various urban development studies and projects have been drawn up. They include the Amsterdam Municipality's plans for the "Debijlmermeer" district which are basically geared to public transport needs. The same approach has been adopted in the plans for new residential areas north east of Rotterdam.

In Portugal, the construction of road transport terminals linking with urban transport services to and from city centres is at present envisaged in several towns in order to improve the flow of urban traffic. A "Master-Plan" for the city of Lisbon includes a traffic study which serves as a basis for the dimensioning of transport infrastructures and the readjustment of the general underground railway network.

In Sweden, urban highway infrastructures as well as urban planning and development come within the jurisdiction of the municipalities.

In Switzerland, Urban Planning Boards already exist or are being established in the towns to examine development projects and optimal solutions for future public transport needs.

In Yugoslavia, transportation studies now being conducted in a good many Yugoslav towns will be used as a basis to draw up reorganisation projects for such transport and create the conditions for the harmonious development of towns in which the public interest will be served by up-to-date means of transport. These projects are part of a medium and long-term programme of urban construction and reconstruction.

In Spain, town planning is geared to regional planning and to special plans designed mainly to cater for the needs of historic towns, landscape conservancy (beauty spots), etc. These different types of planning can be undertaken by municipalities, but final approval lies with the central government.

In Italy, as a rational approach to urban development, this country has adopted the concept of "open" town planning as distinct from traditional town growth of the "sprawling" kind. A case in point is the overall development plan for the city of Rome, which provides for the building of an urban motorway (a so-called "purpose-built axis") on a route which is at present peripheral but runs alongside the site of the future "business centre".

New urban-planning concepts in Italy also provide for the creation of self-sufficing residential areas linked to historic town centres by efficient public transport services.

In the United Kingdom, the Government's intention to improve and expand public transport was announced in the White Paper on Transport Policy of 1966.

Measures concerning public transport must be rational and co-ordinated with other aspects of urban development. They include technical developments and improvments to urban infrastructure such as the extension of the Victoria underground line and the projects concerning high-capacity rapid transit systems now under consideration in a number of towns. In Manchester, for instance, a new railway, partly underground, of some eleven miles extent is under detailed study.

Chapter II

CHOICE OF MODE OF TRANSPORT

In most ECMT countries, the growing number of private cars and its effects on urban traffics are such that the authorities concerned are confronted with policy decisions as to the choice of modes of transport. Such decisions obviously involve many problems of economics and technology and even of psychology. They imply very heavy investments which are a binding commitment for the future. In addition, existing city patterns are more or less suited for one mode of transport rather than another, and due regard must be paid to one of the main factors of such a choice, namely, the decisions made by users themselves.

In Germany, neither Federal and Länder Governments nor the municipalities exercise any direct influence on users' choice of private or public transport. However, the general feeling is that urban transportation problems cannot be solved unless work commuter journeys in particular are as far as possible handled by public transport.

Attempts are being made to exercise an indirect influence on modal choice specially through the policy applied as regards infrastructural investment.

Disincentives for the use of private cars, such as road pricing, are not envisaged in Germany.

In Austria, as in most other ECMT Member countries, users are free to travel by public or private means of transport. There is however, an increasingly marked tendancy for the public authorities to encourage public transport. It is envisaged to connect the new residential areas by bus lines with the stops of the trams, the "Stadtbahn" and the "Schnellbahn". Also of interest is the metropolitan railway under construction in Vienna. Further attempts are being made to orient users towards the public transports by increasing capacity and offering improved service.

In Belgium, the authorities responsible for the transports are attempting to bring indirect influence to bear on users so as to orient them towards public transport and thus obtain the most efficient use of the latter. For this purpose, the SNCB instituted, on 1st July, 1969, tickets valid for ten trips between the 21 stations and stops within the Brussels area. With such a ticket, sold at B. Frs 80, the price per trip, B. Frs 8, is the same as for the urban transports. The urban transport companies are looking into the possibility of introducing tickets with transfers to and from the SNCB's urban lines. If these new measures give satisfactory results, they may be extended to other towns.

The criterion hitherto adopted for the classification of modes of transport was based on the maximum hourly flow at peak hours and the configuration of the town concerned. Thus:

- up to 12,000 passengers an hour: buses, or in some cases, trolleybuses, of electrical energy is cheaper;
- from 12,000 to 20,000 passengers an hour: trams;
- over 20,000 passengers an hour: underground or "semi-underground" railway systems.

According to these criteria the construction of economically warrantable underground systems is more or less restricted to cities with a population of over a million.

In Denmark, in 1962, when Copenhagen had 14 tram services, plans were made to replace half these services by buses, and three years later a further project provided

for the substitution of buses for all remaining tram services by 1975.

The reasons for this change are economic (buses are suitable for "one-man operation", i. e. driver and conductor combined) and technical (buses can be operated more flexibly than trams, particularly with a view to forthcoming large-scale development projects). In addition, the frequency of services is improved, with consequently shorter waiting time at bus stops.

In France and Spain, underground railways are generally adopted in large cities such as Paris, Madrid and Barcelona and projects of this kind are under consideration for Lyons, Marseilles, Seville and Valencia. Bus services have recently been much extended, together with the adoption of segregated tracks. In both these countries, trams and trolley-buses have practically died out.

In addition, new elevated transport systems are being considered in France for eventual use in towns with populations of more than 300, 000.

It may be said that while users in these two countries are free to choose between public or private modes of transport, an attempt is being made, as in other countries, to orient their choice towards the public transports by improving service and extending the no-parking zones.

In Greece, small buses have been replaced by larger units. The extension of the Athens underground railway system is under consideration.

In Ireland, bus services are provided in the main cities. There are no underground transport services but Dublin and Cork are served by suburban rail services.

In Luxembourg, the municipality having agreed on 2nd May, 1958 to replace trams by buses, these are now the only form of public transport.

In Italy, railways are the first choice for entirely underground traffic, but in cases where only part of the traffic can be handled on underground tracks, buses are preferred for obvious technical reasons. In city centres, buses or even trolley-buses are preferred - once again for technical reasons - to vehicles such as trams, for which fixed installations are required.

In the Netherlands, increasing efforts are being made to achieve selective use of private cars in the towns, especially in town centres. The aim is to give a bigger role to public transport for journey-to-work trips. In some towns, Amsterdam for instance, the present inclination of the authorities is to choose underground railway systems. In other conurbations, there is an inclination to give a big role to rail services, specially for services linking suburban areas and city centres.

In Portugal, the trend is towards an urban public transport system combined with attempts to discourage private transport.

In Sweden, the choice between modes of transport is entirely a matter for the municipality concerned. Government grants for infrastructural investment are made available to municipalities and it lies with them to judge how they can best be employed.

In Switzerland, too, urban public transport operators are entirely free to choose the mode of transport which best caters for all requirements.

In the United Kingdom, as outlined in the White Paper of 1966, the trend of transport policy is towards the expansion of public transport services. A number of measures, primarily related to buses, are being pursued, with a view to reducing the cost of operations and obtaining the maximum utilisation of the resources available.

In the railway field as a whole, the emphasis is still on retrenchment rather than expansion, but proposals are under consideration for extending urban electrification. British Rail are continuing the development of the Advanced Passenger Train, a high-speed train capable of 150 m. p. h. on conventional track. An indirect method of giving priority to public transport is by restricting the access of other road users to the congested areas. This is being actively studied in Britain.

In Yugoslavia, the motor age is at its early phase, but the speed of change is so fast that the time is coming when car ownership, no longer a privilege, will be within the hopes of most people. The direct effects of this growth of motorisation are similar to those that can be seen in other European countries. As elsewhere, it seems important to develop public transport services. In this connection, present trends are towards modernisation of tram transport systems and expansion of bus services, but

no further development of trolley-bus transport. It is worthy of note that only one of the 21 major towns in Yugoslavia uses all three modes; three towns have buses and trolley-buses and four have trams and buses and thirteen buses only.

Chapter III

FINANCING OF URBAN DEVELOPMENT SCHEMES AND TRANSPORT SERVICES SUBSIDIES FOR PUBLIC TRANSPORT

The Member countries short and medium-term plans concerning urban development, and the national authorities' choice of mode of transport, are set out in Chapter I and II above. For both such purposes it is evidently necessary to be able to rely on adequate financial resources.

This Chapter describes the measures envisaged by the authorities to procure the financial resources in question. Reference is also made to the subsidies allocated to public transport undertakings running at a loss.

It may be useful at this point to draw the attention of Ministers to Resolution N° 15, approved in June 1965, which suggested that "in view of the heavy capital expenditure involved in providing additional public transport services (e.g. provision of separate tracks, underground services, etc.) the problems raised by the financing of such expenditure call for further investigation by the authorities concerned". It must be pointed out that this Chapter gives only the results of an exchange of information. It would be desirable to go more deeply into this matter to ascertain the best procedures of investment finance, and to consider investments not only in isolation but also in the general context of economic policy.

Since 1st January, 1967, the German Federal Government allocates, in the form of subsidies for building urban roads (60%) and short-distance public rail lines (40%), part of the proceeds of the tax on mineral oils (DM. 750 million in 1968). The Federal State puts up 50% of the capital for each project encouraged by it, the remainder being financed by other institutions (Länder, local municipalities, transport enterprises).

As there are no general regulations governing the financing of short-distance public transport, urban public transport services are financed by the municipalities, but the federal budget contributes to the financing of services of this type handled by the Deutsche Bundesbahn and, to a lesser degree, the Deutsch Bundespost.

As regards subsidies for short-distance public transport services running at a loss, the position is as follows: municipalities must meet the deficits incurred by transport services that they themselves operate. In the case of services operated by the Bundesbahn, the legislation governing that body provides for government compensation subject to certain conditions. Compensation is awarded to the Bundesbahn to cover up to about half the deficit resulting from fare reductions granted on social grounds.

Private concerns operating short-distance public transport services are seldom subsidised. To help the financial situation of short-distance public transport undertakings, regular bus services are exempt from vehicle tax since 1st January 1969 and their exemption from the tax on mineral oils is envisaged.

Acting within their jurisdiction over educational matters, some Länder governments reimburse part of the revenue losses incurred by short-distance transport operators as a consequence of their charging below-cost fares for school children.

In Austria, the urban transport enterprises are registered as required by commercial law, and are either entirely owned by the town, with no independent budget, or companies with share capital. The former, most commonly known as "Stadtwerke" (municipal enterprises), draw up their operating statements. The capital companies draw up their operating statements in a accordance with company law.

In the case of municipal enterprises

whose operating statements show a loss, the deficit may be made up by material subsidies paid out of the town's budget. Municipal enterprises managed according to local government principles are finances entirely by funds from the budget. The practice of raising proceeds for special purposes represents a compromise between the two methods.

Net annual losses incurred by companies with share capital may be made up by allocations out of the town or Länder budgets in the form of either increases in share capital or subsidies to make good the deficit. There is, however, no obligation to make up annual losses. The result is that certain companies may carry over their losses for decades, but such losses may in no case exceed half the company's capital. In the case of deficits due to investment, the companies may have recourse to the capital market. Municipally-owned enterprises must request permission from the Ministry of Finances before having recourse to bond issues or to loans in foreign currency.

With regard to the metropolitan railway being built in Vienna, plans call for the State to contribute 2.4 billion shillings. Deliberations on this subject are going on.

In Belgium, the Government contributes to the financing of urban public transport by grants to compensate to some degree the losses of revenue resulting from controlled fares. Furthermore, legislation concerning the establishment of urban transport companies enables the Government to guarantee the interest and redemption of loans issued by these companies up to an amount not exceeding three times their registered capital. In cases where this is necessary for the financing of projects that are justified on grounds of public interest, the Minister responsible for public transport may include, in his Department's own estimates, allocations to cover either grants or part of the interest (to a maximum of 3%) on loans for the purchase of vehicles or for the improvement of fixed installations.

Investments in new infrastructures come under the national budget.

In Denmark, any losses incurred on the operation of suburban rail services are financed by the Government together with the ordinary deficit of the State railways. The costs of new infrastructural projects are also largely met by the State.

The Copenhagen Tramways deficit is entirely met by the Municipality.

In Spain, the costs of underground railway infrastructures are borne by the State. Capital expenditure on plant and rolling stock is borne by the operators concerned. The financing of rail services is fully guaranteed by the State. The financing of terminal facilities lies with the authority responsible for promoting them. The financing of highway infrastructures is dealt with jointly by the local authorities and Central Government, the former provides the land and the latter handles actual construction.

As most urban transport services are provided by municipalities, it lies with the latter to cover their losses.

In France, funds for new urban transport infrastructure are provided by the Government and by the local municipalities, in varying proportions.

Public transport enterprises occasionally receive subsidies to make up their operating deficit. A case in point is the RATP, the deficit of which is made up by the Government (70%) and the local municipalities (30%).

At government level, the proposed reform envisaged by the SNCF is based on a new scheme of subsidisation, which could eventually be applied to public urban transport enterprises as well. As currently practised, subsidies have the double disadvantage of weighing heavily on the budget of local municipalities and, inasmuch as they are usually granted retrospectively, giving the enterprises a sense of security incompatible with efficient management and a true sense of responsibility. Under the new system, a distinction would be made between:

- public service obligations (reduced fares for certain categories of users, obligation to ensure certain services operating at a loss, etc.), which are imposed by the authorities and in compensation of which indemnities should be paid beforehand;
- the operating deficit as such, which, in a "true price" perspective, should disappear, provided: private cars are made to pay for themselves (metered parking, road pricing, etc.) and the public modes of transport are given true traffic priorities.

In Greece, urban transport services are operated by individual owners or companies. Operating deficits are covered by fare increases.

In Ireland, urban public transport

services are provided by the national transport undertaking, Coras Iompair Eireann (CIE) which operates a nation-wide network of road and rail services for passengers and merchandise. Uneconomic services are subsidised by those that show a profit. CIE's rail services, including suburban rail services, are operated at a loss. The losses incurred on the railway are met mainly from an annual State grant, the amount which is at present £2 million.

In Italy, urban public transport investments are financed from municipal funds in cases where the franchise is held by a municipal undertaking. Transport services operated by private franchise holders are privately financed.

As regards the criteria for subsidies to urban transport services, Italy stands by those set out in Regulation N° 271/5 of the European Economic Community, which has now come into force, and which provides for the reimbursement of costs incurred by transport undertakings in respect of public service obligations that cannot be removed and of liabilities laid upon such undertakings as a consequence of fare reductions specified on social grounds for certain categories of users.

In Luxembourg, public transport services are entirely financed by the municipal authorities. They are not Government-subsidised in any way and are subject to taxes like private concerns. They are running at a loss and this deficit lays a heavy burden on the municipal budget.

In the Netherlands, the Government may contribute up to 50% (80% in the case of land purchase) of the fixed costs borne by municipalities for public works needed to provide road traffic and/or public transport facilities.

To qualify for such grants, the works to be subsidised must usually be incorporated in a traffic and transportation plan based on an expert study, which may itself be Government-subsidised. Municipal authorities will in all probability be required to draw up traffic and transportation plans of this type in future.

Municipal budgets in the Netherlands include appropriations for urban public transport deficits. Since 1968, the national budget includes an appropriation for public transport in large towns. The procedure adopted for allocating this subsidy is worthy of note. The total appropriation for 1968 (Fl. 30 million) was subdivised as follows: Fl. 15 million according to a so-called "production" criterion, i. e. the number of passenger-kilometre units made available, and Fl. 15 million according to a so-called "transport" criterion, i. e. the number of passengers carried.

In Portugal, urban transport services are of two kinds: those under municipal control and those under private control with a franchise. Undertakings in the first of these categories normally obtain their investment finance by direct or debenture loans from social security or "guild" funds or the National Development Bank. Those in the second category usually rely on self-financing and bank credit.

The arrangements in the two main conurbations (Lisbon and Oporto) are as follows: In Lisbon, two undertakings have public transport franchises, one for surface transport (buses and trams) and the other for the underground. The surface transport undertaking, having so far achieved economic and financial equilibrium, is able to self-finance infrastructure and vehicle replacements, but is now beginning to feel the need for bank credit. Infrastructure costs except those for trams are borne by the Government or the Municipality.

The Lisbon underground covers its own infrastructure costs without receiving any contribution from the local authority or the Central Government. It therefore has recourse to bond issues and bank credit. No grants are awarded on operating account but the Lisbon Municipality contributes a yearly increase to the registered capital and underwrites outside loans.

All urban public transport services (buses, trams and trolley-buses) serving Oporto and the surrounding area are provided by a municipal undertaking. No grants are awarded on operating account, but deficits - if any - are covered by the Central government. The undertaking is responsible for tramway infrastructure costs, but other costs are borne by the Oporto Municipality.

In Sweden, urban transport services in most cities are running at a loss. Deficits do not lead to any intervention from the Central Government grants that they may use if they see fit.

In Switzerland, urban public transport finance is primarily a matter for the undertaking concerned. If this is a municipal undertaking (as is usually the case) finance is a municipal (i. e. Communal) responsibility (except at Basle, where urban public

transport is handled by an undertaking under the control of the "Basle-Ville" Cantonal Authority). Deficits, if any, are met in whole or in part by the local Authority (Commune) concerned. In cases where urban public transport services also serve suburban areas, the other local authorities contribute to the financing of the deficit.

The Central Government of the Confederation is not in any way committed to covering the deficits of urban public transport undertakings.

In the United Kingdom, the Government has recently acquired additional powers to provide financial help to transport operators and to local transport authorities for the purposes of extending and improving fixed capital facilities, for re-equipping with modern vehicles and for subsidising the operation of unremunerative but socially desirable services. The new financial arrangements are of five types:

(a) Grants will be paid of up to 75% of the cost of capital investment in such major items as urban railway extensions, new busways, monorails, underground railways, etc. In pursuance of the major aims of establishing properly co-ordinated transport systems in each area, such projects will only qualify for grants if they can be set in the context of local plans for handling the transport problems of the area.

(b) Grants of 25% will be paid for the purchase of new buses provided they conform to certain basic specifications. This scheme will be in force for a period of seven years.

(c) There will be a further grant to bus operators to offset a proportion of the duty on fuel.

(d) There will be an operating subsidy for certain rail commuter services. It is hoped that the need for these subsidies will disappear as the co-ordinated plans for local transportation bear fruit.

(e) There are also new powers given to local authorities to subsidise rural bus services which they regard as essential but which cannot be made commercially viable, and for government grants of 50% of the subsidies so paid.

In Yugoslavia, urban public transport infrastructures are financed partly by local authorities and partly by the State. As regards the modernisation of vehicles, the intention is to make gradual adjustments according to requirements. Though the transport undertakings are now running at a loss, they should in future be able to self-finance this modernisation to some degree as in order to restore their financial equilibrium, it is intended to introduce adequate charges by stages and at the same time to provide appropriate bank credit.

Chapter IV

PARKING PROBLEMS: PROVISION AND FINANCING OF CAR PARKS

As pointed out in Chapter I, one of the main causes of the present urban transportation and traffic problem is the rapid increase in car ownership. In most of Europe's large cities, only a small proportion of the car population is in daily use and it follows that more and more space (parking lanes, etc.) is needed to accommodate stationary vehicles which hamper the flow of traffic (of the 2 million cars in the Paris area in 1968, an average of only 130,000 - less than 10% - were in daily use at the peak hours). Traffic and parking problems are further aggravated by car-users from other areas driving into city centres for occupational or recreational reasons. Public authorities have been trying to find ways of solving this problem for several years. Some of the principal measures adopted or envisaged in the ECMT countries and various lines of thinking on the location, use and financing of car parks are set out below.

In Germany, the tendency of municipalities nowadays is to provide only for metered car parks on disc parking systems in city centres. Multi-storey and open-air car parks are also being provided in the vicinity of city centres, sometimes free of charge, sometimes not.

The Federal Government has asked a private consultancy agency to study urban area/parking space ratios in order to ascertain future requirements for each city. The financing of car parks normally lies with the municipalities but there are cases where business interests contribute to the financing of multi-storey car parks in city centres.

Consideration is at present being given to whether the Federal Government should allocate funds, drawn from the proceeds of the tax on mineral oils, for the provision of car parks in the immediate vicinity of short-distance public transport terminals.

In Austria, the introduction of charges for the use of certain parking areas in Vienna is currently being considered.

In Belgium, as regards policy on parking areas, there is a general plan for setting up of parking areas in Brussels, a number of locations chosen jointly by the Ministers of Public Works and of Communications.

These parking areas are located in the immediate vicinity of major throughways, metropolitan stations or bus and tram stops. Certain areas will be designed to encourage automobile drivers to leave their cars there and use the public transports to go downtown. In addition, the highways department when modernising the thoroughfares for which it is responsible, provides street-level parking areas alongside roads, whenever possible, and saw-tooth parking areas along the wider thoroughfares.

A detailed study has been conducted on parking problems in city centres (see Annex).

In Denmark, collaboration between the State Railways and local authorities for the provision of car parks near suburban stations has been the practice for many years.

No charges are made for the use of such car parks. They are installed at the 'local authorities' expense but the site is in most cases made available by the State Railways.

In Spain, although the system of charging levies for on-street parking by means

of parking meters is not widely used, it is, nevertheless, employed in some towns. On the other hand, the system of charges for parking levied by municipal employees is very widespread.

In most towns, there is also a compulsory annual tax which is fairly cheap, and varies in accordance with vehicle horsepower. These taxes are a municipal responsibility and give users the right to use the streets for parking their vehicles (in zones where parking is not prohibited by general traffic rules, naturally).

In France, the parking problem is increasingly acute, particularly in Paris and the surrounding area. The present tendency is towards parking controls in city centres. In Paris, for instance, the construction of underground car parks is under consideration, and there already are a few operated by private concerns. Before proceeding with the construction of additional car parks in city centres, careful consideration must be given to the drawbacks of their attracting additional traffic at peak hours. Parking meters have begun to be introduced in the down-town areas of several cities.

Facilities for parking at very low charges have also been provided in Paris (at the Porte d'Orléans for instance) to enable suburban motorists to leave their cars at the city gates. Something akin to "dumping" is envisaged for parking charges in peripheral areas as compared with city centres.

In Ireland, on-street parking is regulated. It is the usual practice to permit parking in certain streets in central areas for periods of one hour. At some points, parking is authorised all day on Sundays and holidays.

Local authorities are empowered to provide off-street car parks. Grants from a fund financed from vehicle taxation, known as the Road Fund, are available for the provision of such parks.

In towns and cities where traffic congestion is a serious problem or where traffic surveys carried out by local authorities demonstrate the need for off-street parking facilities, the full cost of providing car parks is met out of the Road Fund. In other cases, the Road Fund meets only 50% of the cost. No charges are levied for on-street or off-street parking.

It has been decided to control and regulate on-street parking in the central area of Dublin by means of parking meters. It is intended that the cost will be met out of revenue anticipated from the meters and that surplus revenue will be used to finance further traffic management measures, including the provision of off-street parking.

In Italy, the inclination is for parking facilities to be located near city centres but in such a way as not to impede traffic and make the problem of access worse than it already is. Besides parking as such, these car parks should above all provide public transport interchange facilities. The car parks so far provided in Italy may be classified according to financing procedure as follows: private car parks, i. e. those built and operated by private companies, and public car parks: these are on municipal sites and may be operated by the local authority itself or built and operated by private companies which undertake to hand them over to the municipality when their franchise expires.

In all cases charges are levied. Charges in public car parks are determined by the local authorities.

The City of Luxembourg is at present equipped with seven open-air parks at various points in the city centre and near the railway stations. The need for covered car parks in the busiest parts of the town is increasingly acute. The municipality is at present considering two projects which could bring temporary relief. They are both sponsored by private concerns and would involve no financial contribution from the municipality. Parking facilities for lorries are provided in peripheral districts.

In the Netherlands, parking meters are being installed in increasing numbers to deal with the problem of long-term parking.

No subsidies have yet been granted for the installation of open-air or covered car parks. The supply of such facilities is as far as possible left to private enterprise.

In Portugal, attempts are at present being made to define general criteria with a view to striking a fair balance between total parking space and road network capacity.

A general plan for the distribution of car parks has been drawn up for Lisbon in order to ease the flow of traffic, particularly in the city centre. It is also intended to prohibit street parking in many parts of the city centre. Tenders will be invited for the construction of car parks which

will revert to the municipality after a 30-year franchise.

In Sweden, car parks and parking charges are a municipal responsibility. The Central Government does not intervene in this field.

In Switzerland, charges for parking can be levied by decision of local authorities (Cantons or Communes). Parking meters are installed at the expense of the local authority concerned. Receipts from parking meters cover only part of the operating costs.

In the cities, car parks - mainly underground - are built and land owned by the municipality. They are financed with municipal budget allocations (Government Budget allocations in the case of Basle and Geneva), by loans guaranteed by the municipality (Communes or Cantons) and in some cases also from private sources. Franchises for the operation of car parks are granted by the local authority, i. e. Commune or Canton.

In the United Kingdom, the parking problem is receiving very close attention from the Central Government and Local Authorities. A detailed review of United Kingdom policy on this subject is shown in Annex II.

In Yugoslavia, special importance is attached to the solution of traffic problems by parking controls, especially in city centres.

Large-scale studies of parking needs and possibilities have been conducted in several cities. Parking controls vary from one city to another. They include so-called "blue zones", disc parking procedures, parking meters, loading and unloading zones for supplies to stores and shops.

On-street parking of commercial vehicles being banned in certain towns, special car parks for such vehicles are provided at city boundaries or near railway stations and docks. Proceeds of parking charges are strictly reserved for improvements to parking facilities, including the construction of off-street car parks. However, as such revenues are little more than a token contribution to total costs, the principal sources of finance for the construction of car parks are the municipalities and firms concerned and the banking system.

CONCLUSION

The conclusion to be drawn from the foregoing paragraphs is that in most ECMT Member countries, parking zones and car parks are a short-term solution for dealing with a good many present traffic problems. However, attention must be drawn to the grave problems that the provision of car parks in the city centres can involve unless this is done on a rational and co-ordinated basis. These problems are not only financial ones linked with long-term investment. They are also of a practical order, for in order to ease traffic congestion in the city centre, parking facilities at lower charges must also be provided at the outskirts, and they must be combined with faster and more comfortable public transport services to and from central areas.

Annex I

PARKING POLICY IN THE BRUSSELS CONURBATION

The essential purpose of the general traffic study assigned to SOBEMAP was to obtain guidance on the future operation of urban public transport services in Brussels, and on the basic outlines of the network best adapted to passenger transport demand, so as to facilitate the formulation of an investment programme involving decisions as to the trunk routes or other sections of the network that should be put underground and the respective urgency of such projects.

However, the series of data collected in the course of this study revealed a range of possibilities which could not be given effect within the limits of the budget and time scale set for this first exercise. Hence, in order to obtain the maximum benefits from the money spent on this venture, it seems essential to proceed with further investigations, as some important decisions still remain to be taken, and as the decision-making process can be considerably enlightened by the data collected and the machinery already applied.

The many avenues still to be explored include the following:

(1) organisation of the railway network within the city area;

(2) organisation of the public transport network (semi-underground and subsequently underground) within the Brussels conurbation;

(3) policy to be pursued with regard to interchange (i. e. "park and ride") facilities on the city outskirts.

Proposals have been put forward on the first two points; this paper deals with the parking problem.

Principles of a parking policy

The increasing number of passenger-trips within the Brussels conurbation calls for simultaneous action as regards infrastructures for both public and private transport (i. e. urban roads and parking space).

As the development of traffic and parking capacities is most expensive, one of the first requirements to ensure a satisfactory passenger transport service is to put the maximum restraint, within the congested area, on cars used only for journey-to-work trips.

Such restraint can be obtained as follows:

either by: on-street parking bans or restrictions; charges for parking; provision of public car parks;

or by: improvements (as regards speed, regularity and comfort) to public transport services at peak hours, and provision of interchange (park and ride) car parks within the conurbation; car parks of this type should be located within easy reach of fast public passenger transport services in order to provide a convenient and reliable facility for the last leg of the journey to the city centre.

Another basic principle of parking policy is that priority for the use of available parking space in central areas should be given to cars used for other than "journey to work" trips (i. e. shopping, business calls, recreation, etc.). This seems essential if the town centre is to continue to fulfil what must be regarded as its proper commercial, administrative and cultural functions in the eyes of town-planners and sociologists alike.

With a view to the formulation of a concerted policy for parking in the Brussels conurbation, it therefore seems that the study should be amplified in two mains directions as follows:

- problems relating to parking in the city centre;

- problems concerning the application of a "park and ride" policy.

I. STUDY OF THE ELEMENTS OF A POLICY FOR PARKING IN THE CITY CENTRE

SOBEMAP recommends a four-stage study:

1st stage : Definition of the central area in the light of density of employment, power of attraction of blocks taken into account, present congestion of urban roads and configuration of the infrastructure.

2nd stage : Study of present and foreseeable demand (in 1980) for parking space, with details of its motivation, timing (hour of the day and day of the week) and location.

This study would be carried out in two stages: (a) analysis of the present situation, (b) forecasts for 1980.

(a) Analysis of the present situation

The general traffic study carried out in 1964 gave a partial description of the existing situation but was chiefly centred on trips of the "journey-to-work" type. Further information must therefore be collected by interviewing motorists and public transport users at crossing points on the city boundaries. A sample survey comprising about 20,000 interviews (i. e. a 7. 5% sample) would be appropriate.

This analysis would show for each locality (ward) and for each motivation, the number of trips per hour to the city centre (total number, with separate figures for public and private transport), and the number of parking spaces required per hour.

(b) Forecasts of parking space demand in 1980

In working out these forecasts, a clear distinction must be made according to motivation of trip, as follows:

- Forecasts for "journey-to-work" trips
  these could be based on the general traffic study.
- Forecasts concerning "trips for other reasons"
  could be based on the close relationships between the number of trips to the central area and land-use in that area, and on modal choice for such trips according to the rate of car ownership, the length of the trip and its motivation.

Hence in the case of trips for "other reasons", the aim will be:

- to work out formal relationships between the number of trips made for a given reason and the characteristics of the amenities (persons employed, area, etc.) having generated these trips, as things stand at present;
- to forecast the characteristics of each type of amenity within the boundaries of the central area under review in 1980, due regard being paid to existing amenities, those under construction or planned, and to development projects, more particularly those envisaged by the Brussels municipality.
- to forecast the future passenger movement demand.

3rd stage : Study of the present situation and possible trend of parking space supply

For the purposes of this study, a distinction should be made between supply intended to cater for "journey-to-work" trips and supply catering for trips for "other reasons".

(a) Parking space for "journey-to-work" trips

Having regard to the unavoidable banning of on-street parking for car commuters, parking space for journey-to-work trips should essentially be provided within the precincts of office buildings and, to a minor degree, in car parks for which charges are levied (the true extent of this will be checked by a behaviour and motivation survey to be conducted at such car parks).

The supply of parking facilities in office buildings in 1980 will depend on the action taken in this respect by business concerns (subject to commercial viability considerations) and on the requirements (which cannot be too severe) laid down by the authorities. The relevant factors will be judged in the light of discussions between Government representatives and business executives.

The doubtless sizeable gap between expected demand for parking space and the extent to which it will be possible to cater

for it is one of the main elements on which the "park and ride" study (i. e. the second stage of the exercise) will be based.

(b) Parking space for trips undertaking for "other reasons"

Basic principles

The relevant factors should be classified according to scales of priorities determined by socio-economic requirements. It is essential to provide for the survival of existing and planned amenities, and hence to ensure that they are used sufficiently intensively to earn a reasonable return. The minimal supply necessary for each "ward" and each trip motivation must therefore be ascertained.

As this minimal supply must inevitably far exceed the number of free parking spaces that can be provided (even if the disc parking area is extended) the problem of private enterprise providing charged-for parking facilities must be tackled.

The problems arising in this connection are the following:

- formulation of the basic elements of a pricing policy;
- evaluation of the prices (i. e. charges) ensuring an adequate return from car parks.
- analysis of the price elasticity of demand according to trip motivation. This is essential for the following reason: given that commercially viable charges for car parks would substantially reduce demand, the minimal supply likely to ensure a reasonable return from the socio-communal amenities provided in the city centre might then fail to be matched by an adequate demand.

Should the study lead to this type of conclusion (as part of its forecasts for 1980) it would be appropriate to lay the basis of a policy whereby the operation of large car parks could be financed, to a substantial degree, otherwise than by motorists themselves.

This problem would be tackled by investigations of two kinds:

- behaviour and motivation survey (2, 000 interviews) covering a sample of the motoring public using car parks at which charges are levied;
- surveys covering development promoters (car park operators and public authorities).

4th stage : Synopsis of previous stages and proposals for the formulation of a policy for parking in the city centre

II. STUDY OF THE ELEMENTS OF A POLICY FOR PROVIDING INTERCHANGE (PARK AND RIDE) CAR PARKS

In the light of the comparative trend of employment, car ownership and supply of parking space in the city centre, the general traffic survey conducted by SOBEMAP showed that there could be no escaping the need for the application of such a policy.

In this context, three closely-interdependent problems must be solved: the location and capacity of interchange car parks and the principles of pricing policy that should be adopted to ensure that they will pay their way.

(1) Location of passenger interchange car parks

Such car parks should be located alongside the route of a rapid transit public transport service of reasonable capacity and frequency. They should be easily accessible neither too far from nor too close to the city centre.

It is accordingly necessary to identify the various radial trunk routes for future rapid transit services and, on each of these routes, to locate two or three potential sites for car parks, due regard being paid to the considerations, already referred to, that are relevant to such a choice. Data concerning the future development of the city and its outskirts, and an analysis at local level of the possibilities offered by alternative sites should be taken into account for this purpose.

In this way, a number of potential sites can be identified, each site or combination of sites constituting a "variant" for the trunk route concerned.

(2) Capacity of interchange ("park and ride") car parks

A separate analysis is needed for each trunk route into the city and for each variant (i. e. combination of sites) relevant to a given route. It will be necessary to study the modes of transport that will be used for work and school commuting and to define, for each variant, the catchment area of the car park concerned.

The successive stages of the study are

as follows:

- evaluation of the total number of motorised trips for the catchment area within which the car park is situated;
- evaluation of the total number of trips for which passengers would like to use their cars if there were no restraints on parking at the destination point;
- evaluation of the number of trips that can be catered for in the light of the supply of parking spaces in the city centre (i. e. on the basis of the study on city centre parking space which constituted the first phase of the exercise).

The difference between these two quantities is the balance for which parking space cannot be provided in the city centre, and which will be subdivided into three methods of travel, as follows:

- go on foot to the nearest public transport stop and use the corresponding transport service;
- drive to a public transport stop, leave the car in the street and use the corresponding transport service;
- drive to an interchange car park, leave the car there and use a rapid transit service.

The whole crux of the problem lies in evaluating this breakdown since it conditions the interchange car park capacity for which provision must be made.

The solution of this problem calls for the construction of a model designed to calculate, for each possible trip from the catchment area of the car park concerned to the area served by the relevant trunk route:

- journey time (actual travelling time on each section of the route, average waiting time plus average time spent in looking for parking space plus time spent in manoeuvering in car park);
- overall cost of trip, including direct costs (public transport fares, fuel costs, charges for parking at interchange car park) and indirect and subjective costs (car depreciation and maintenance costs; evaluation of journey time in terms of monetary units).

It will be assumed that one of the three "methods of travel" outlined above will be used for each possible trip in the light of the following criteria:

- either minimum journey time;
- or minimum direct cost of trip;
- or minimum overall cost (i. e. a combination of the first two criteria).

By totalising the trips made by each "method of travel" according to a given criterion, it will be possible to determine the interchange car park capacity that should be planned to cater for "journey-to-work" trips.

In practice, this calculation is feasible only if the cost parameters included in the model are known, and in particular:

- the value subjectively assigned to time (this implies a sample survey of car drivers' psychological attitudes on this point);
- charges levied at interchange car parks. This raises the problem of pricing since the capacity of the car park to be planned for will ultimately be related to parking charges.

The average daily charge in a given car park can be differently assessed, for instance: nil, if the interchange car park is deemed to be a free public service, or a charge which would yield a reasonable return to a private operator, or a compromise between the two.

Policy in this respect should take into account the concept of profitability for the community as a whole. If a public authority assumes all or part of the building and operating costs of a car park, the savings achieved in this way - for instance on expenditure on highway infrastructures - should be set off against these costs.

SOBEMAP proposes to carry out a profitability study of this kind in order to give more light for policy decisions on the pricing and operation of interchange car parks.

In the light of this study, and for each of the variants envisaged for car park sites, it will be possible to estimate a capacity bracket within which the considered car park should fit, the top and bottom limits of the bracket depending on the criterion accounting for users' choice (minimum journey time, or direct minimum cost or minimum overall cost) and on the values subjectively assigned to time.

4th stage of the study. Synopsis

Cost and duration of the study

First phase

Study of the elements of a policy for parking in the city centre:
Frs. 2,050,000.

Duration: Eight months as from date of signature of the contract.

Second phase

Study of the elements of a "Park and Ride" policy:
Frs. 1,900,000.

Duration: Twelve months as from the date of signature of the contract.

Annex II

PARKING POLICY IN THE UNITED KINGDOM

Responsibility for parking control

1. In the United Kingdom the responsibility for regulating parking in streets and for prohibiting or restricting waiting rests with the local authorities. Parking space off the street is not controlled directly. It is provided by either the local authorities themselves or by private firms, but private firms have to secure planning permission from the local planning authority for car parks they want to build. The central government exercises no direct control over parking. Their role is to advise local authorities on parking policy and practice.

The importance of parking control

2. The development of the communications network in urban areas must be managed at all stages to secure that the demands made upon it are met as fully and efficiently as possible. The demands made upon roads are that they should provide good circulation, that they should provide access to frontaging properties both for the convenience of residents and for the maintenance of commercial activity, and that the loads they take should not be intolerable for residential amenity. In any congested area these demands, if uncontrolled, conflict, and traffic regulation is necessary so that the capacity of the roads is used in the most reasonable and practicable way. The control of the use of the street alongside the kerb is an essential part of this regulation, and it is becoming more and more apparent that some form of control should be exercised over parking space off the street if the value of urban roads is to be realised to the full.

Traffic and Transport Plans

3. It follows that the location and amount of parking space, both on and off-street, must be directly related to the capacity of the highway network, and the provision or the restriction on the use of space for parking is now regarded as critical to securing the best economic and social benefit from this capacity, particularly at the peak travel periods. The United Kingdom Government have informed local authorities that they must be prepared to use their powers of traffic management and control in a much more systematic way, and in particular they have asked urban authorities with towns of over 50,000 population to prepare, as a matter of urgency, traffic and transport plans showing the measures they mean to take in the period up to the mid-1970's to deal with the problems caused by the increasing growth of traffic and that the plans should include a statement of policy for the location, amount and control of parking both on and off the street.

4. Every urban area has to meet its own particular traffic problems in its own particular way. No solution of general application is possible. But the ideal is a sensitive mechanism of local authority control to give first priority to the short-term parker, second priority to drivers who want to park near their residence and last priority to the driver commuting to work by car, i.e. the long-term parker.

London

5. In London the Greater London Council have launched a programme which will extend the existing parking meter zone over the whole 40 square miles of Inner London, with graded charges for parking, high in the centre and lower towards the outskirts. The Council also envisage a programme of further off-street car parks in strategic positions to be provided either by the local authorities or by private developers. In recent years off-street parking space for the public has increased by 1,500 spaces

a year, and the Council's intention is to reduce on-street space as off-street space is increased. It is expected that in the near future on-street space will have increased by 10% since 1966. In total there will be some 13,000 fewer spaces or a reduction of about 9%. This will reduce, possibly by 20%, the number of car commuters who leave their cars on the street all day, increase the opportunities for short-term parking for business and shopping and improve the peak hour flow of traffic.

6. To secure the effectiveness of this kind of planned development and control, the Greater London Council are proposing to introduce a licensing system by which no car park can be operated by private enterprise without holding a licence from the London Borough concerned. The key advantages of the system are that car parks will only be provided in future in the right places with the right amount of space and will have their charges controlled by a public authority. By arranging the scale of charges the public authority would be able to put a price on the demand for parking space in busy traffic centres.

Public transport interchanges

7. So far we have been discussing parking primarily in relation to the central or inner areas of towns and cities and to the discouragement of commuting by car to work there. But there will always be many commuters who do not have direct access to public transport and who want or need to start and finish their journey by car. This is specially the case in London and the main conurbations centred on Manchester, Liverpool, Birmingham, Newcastle, Glasgow and the industrial cities in Yorkshire. Accordingly, the Government is encouraging local authorities who adopt traffic and parking policies designed to discourage car commuters to plan and provide interchanges at key points on the public transport network where commuters can park and continue their journey conveniently by train or bus. By way of further encouragement the Government has taken powers to enable it to pay half the cost of such projects.

Control of parking space in new development

8. In conformity with the policy described the United Kingdom Government have also under scrutiny the question of restricting the amount of parking space to be allowed in new buildings, notably office blocks and department stores, which attract large numbers of cars and cause added congestion at peak hours. The concept being developed is that in future new buildings parking space should be restricted to their operational needs and that no or little space should be provided for the private use of those who work or have business there. Some space on site is essential - for the delivery and despatch of goods and for servicing - to prevent obstruction of the roads by vehicles parked for these purposes. But otherwise there is no essential need for this kind of parking space, and there is a good case for adopting the principle that all new public parking space should be provided in public car parks. For example, for office development the Greater London Council are advocating in Central London one space for 15,000 square feet instead of one space for 2,000 square feet as at present, and for shop development one space for 5,000 square feet instead of one space for 2,500 square feet. They are also proposing similar restrictions, although on a more generous scale, in surrounding areas and in the outskirts.

Self-sufficiency or subsidy

9. A key factor in deciding a parking policy is the extent to which municipal car parks should be financially self-sufficient. The general criterion for provising a free or subsidised service is that the service is:

(1) of great importance to the well-being of individuals and the community,

and

(2) that charging for the service would prevent needy members of the community from obtaining it.

It is difficult to see how this applies to car parking. Subsidy needs to be justified by demonstrable benefits. In the case of parking, it artificially increases demand, and leads to misallocation of resources. It is also inequitable as between the car-owning (and often more needy) members of the community.

10. The only argument in favour of subsidised parking is that the whole community benefits because business is attracted to the area. Even then, it can only be true of the local interests of local communities. For, if subsidised parking were universal, there would be no redistribution of business, only excess facilities. Competition of trade between neighbouring communities that results in the over-provision of, for example, shops, is not in the national interest. If the provision of car parking benefits the business interests in a particular community, as well as the motorist, then the cost of providing facilities should be shared between these

groups. If the whole local community benefits from the increased rateable value of the business districts as a result of providing parking space, there may be a case for some contribution from the general rates, but this could be expected to be very small.

Summary

11. In summary the parking policy of the United Kingdom Government is being developed on these lines:

1. Because of its increasing growth, there must be much more comprehensive control of traffic in urban areas.
2. Stricter traffic management is the means to secure this control in the short term.
3. There should be progressive control by local authorities of all parking, both on and off-street and whether provided by themselves selves or by private enterprise, as the main weapon to this end.
4. Parking priority should be given to the short-term parker, the resident parker and the car commuter or long-term parker in that order.
5. Interchanges with public transport should be provided on the outskirts of cities and towns with Government financial support.
6. Parking space in new development should be restricted as much as possible to operational needs.
7. There should be systematic control by local authorities of charges for parking on the street so as to discourage the long-term parker and, where suitable, similar control of charges for parking off the street.
8. Wherever possible subsidies from local taxation to publicly owned public car parks should be abolished or reduced.

Part III

REPORTS APPROVED BY THE COUNCIL OF MINISTERS

REPORT BY THE COMMITTEE OF DEPUTIES ON THE STANDARDIZATION OF RAILWAY ROLLING STOCK

[CM(69)4]

I. INTRODUCTION

1. At its meeting of 29th and 30th June, 1965 in Lisbon, the Council of Ministers considered report CM(65)3 on the standardization of Diesel locomotives and electric locomotives and, in Resolution No. 14 concerning the Standardization of Railway Rolling Stock, instructed the Committee of Deputies, in co-operation with the UIC to keep under review:

- in respect of wagons: the progress made towards further standardization and, especially, unification of modern types and their future inclusion in the EUROP pool;
- in respect of locomotives: developments in regard to standardization,

and to present a further general report on the results achieved between 1957 and 1966 for wagons and between 1964 and 1966 for locomotives.

2. The report on the standardization of freight wagons for the period 1957 to 1966 [CM(67)19] was submitted to the Council of Ministers at its meeting of 12th December, 1967.[1] The Council approved the conclusions of the report and instructed the Committee of Deputies to watch developments with the UIC and submit a report of these matters in due course.

3. The developments recorded for the standardization of locomotives and freight wagons are set out respectively in chapters II and III.

II. STANDARDIZATION OF LOCOMOTIVES

1. At 31st December, 1964 the number of locomotives in all the Member countries included 14,265 diesel, 8,818 electric and 21,746 steam locomotives corresponding to 32, 20 and 48% of the total. It was noted rightly in the conclusions of the report that for a number of years to come railway administrations and industry will be faced with a heavy demand for diesel or electric engines to replace steam locomotives or "first generation" diesel or electric locomotives in those countries which were the first to carry out electrification and dieselisation. Up to the end of 1967, the total number of locomotives fell from 44,829 to 35,539 units comprising 15,130 diesel engines, 9,577 electric and no more than 10,832 steam, corresponding respectively to 43, 27 and 30% of the total number. Tables 1 and 2 give a subdivision of diesel locomotives by power categories and electric locomotives by types of current, compared with the situation in 1957.

TABLE 1

Number of diesel locomotives, subdivided into power categories:

HORSE-POWER	1967		1957	
	UNITS	%	UNITS	%
Up to 350 h.p.	5,122	34	2,730	62
From 351 to 1,000 h.p.	4,680	31	1,339	30
From 1,001 to 2,000 h.p. ...	4,149	27	362	8
Over 2,000 h.p.	1,179	8	4	1
Total	15,130	100	4,435	100

1. See volume XVII of the Resolutions of the ECMT (1967).

2. In conclusion, the report in question noted in respect of standardization that:

International standardization on any sizeeable scale has so far been confined to diesel locomotives, and to 13 Member countries. At the same time, as far as diesel and electric locomotives are concerned, considerable efforts have been made to ensure that only a few types are acquired, in fairly large series, so that advantages may be gained, at least at national level, from the reduction in the number of types and from standardization; it will also be necessary in some cases to take into account the capacity of the national industry.

TABLE 2

Number of electric locomotives, subdivided according to type of current:

TYPE OF CURRENT	1967		1957	
	UNITS	%	UNITS	%
Locomotives for:				
Direct current 660 - 1200	76[1]	39	6	44
Direct current 1500 v	1,549		1,325	
Direct current 3000 v	2,125		1,387	
Single-phase current 16 2/3 cycle	4,390	58	2,665	56
Single-phase current 50 cycle	1,028		215	
Three-phase current	171		541	
2 types of current	206	3	28	1
3 types of current	8		-	
4 types of current	24		-	
Total	9,577	100	6,167	100

1. Of which 51 diesel-electric locomotives in Great Britain.

A. Standardization of diesel locomotives

3. Before entering into details of what has occurred since 1964, it might be advisable to resume the historical background.

After the choice of a number of standard types in March 1957 following a general consultation of the industry, covering four of the eight classes into which diesel locomotives had been divided at the time, the UIC had considered continuing its studies, concentrating on engines intended for light operations on main lines.

4. The difficulties encountered by the UIC were due on the one hand to the complicated nature of the equipment, but also, and mainly, to the fact that this was a sector in full process of development where progress was very rapid, particularly as regards engines. This trend was recognised when the Office for Research and Experiments (ORE) defined a new classification for diesel locomotives based, no longer on h. p., but on the number of driving axles and their adhesive weight; as weight limits per axle for the various lines of the networks might be considered as stable characteristics.

5. Thus in 1960 the UIC gave up the practice of adopting new standard models and made use of the possibilities offered by the regulations established by the ORE, in co-operation with industry, for tests on locomotives under its supervision, leading to their "homologation". This homologation attests that the locomotive comes under one of the classes specified by the ORE, conforms to the unified specifications of the UIC Code and also to the minimum performance and ruggedness considered necessary and could therefore be designated in future as a standard type.

6. Report CM(65)3 presented a general picture of the situation resulting from the foregoing considerations. It has not changed perceptibly, as already at this date the railway administrations had to a large extent undertaken their dieselisation programmes and even completed them in certain cases; the only development of note is that of the increase of the h.p. per unit of the engines, which was noticed in the report concerned.

7. The work in progress in recent years has therefore consisted in the homologation of locomotives - in very small numbers - and of engines, the experience obtained making it possible to unify the testing methods so as to obtain really comparable results. The long and exacting work of the standardization of sub-assemblies and detailed parts has been undertaken in co-operation with the CELTE ("Constructeurs Européens de Locomotives Thermiques et Electriques"). The ORE also deals with questions of maintenance which, since they provide information on the endurance of the different assembly parts, also have an influence on homologation. Moreover, the formulation of standard regulations governing locomotives with internal combustion engines running in international traffic (layout of drivers' cabs - ability to withstand shocks - visibility, arrangement - fire protection, controls, distance between fuelling posts, etc.) is now completed.

8. Moreover, it should be noted that, thanks to the electrification of the networks and - in the events of different systems of current - the use of locomotives adapted to two or more types of current. Cross-movements of diesel motor engines between countries are becoming less frequent and standardization thus covers an essentially economic aspect, mainly from the point of view of a large European market.

9. The reports of Member countries in Annex 1 show how far national standardization has had an effect on the purchase of diesel locomotives.

10. To sum up, it may be observed that for various reasons developments have not followed the trend foressen in 1957. Although the work of the UIC and the ORE have not resulted in standardized locomotives at international level which can be used throughout Europe, as is the case, for instance, for freight wagons, the joint efforts of the railways and of industry have nevertheless led to valuable exchanges of experience and largely contributed to the formulation standard conditions for tests, purchase, equipment and operation. But it is mainly those countries which have not yet produced or were unable to produce diesel locomotives which have had the possibility of benefiting by the valuable experience of the producer countries and of purchasing or manufacturing under license these types of locomotives a large number of which are already in service and have stood the test of time.

B. Standardization of electric locomotives

11. As regards electric locomotives, for which no international standardization has been undertaken, attention need only be drawn to the elaboration of rules similar to those applicable to diesel locomotives and the tests carried out by the ORE in particular on the endurance of pantographs at very high speeds.

12. It should be pointed out moreover that the differences in types of current are no longer an obstacle to cross-traffic. The considerable increase in the number of locomotives each of which is capable of operating on two, three or even four types of current is seen in Table 2. The engines are used both for traffic inside a country or for international traffic in the event of two networks each with its own system joining one another. In addition to the difference in types of current there is another difficulty i.e. that of the width of the pantographs for the electrified networks, so that locomotives capable of operating on four types of current have four pantographs on the roof.

13. The reports of Member countries on the standardization of electric locomotives are recorded in Annex 2.

III. STANDARDIZATION OF WAGONS

1. Reports CM(67)19 had stated on the one hand that out of a total fleet of

approximately one million freight wagons (excluding Great Britain, Spain and Portugal), 31% were of standard or unified type. On the other hand, a first stage of standardization had drawn to a close because the changing pattern of freight traffic, due in particular to the re-shaping of fuel and power supply called for forecasting studies on traffic flows, and on their size and content. A co-ordinated long-term programme for the construction of various types of wagons was also necessary in view of the introduction of automatic coupling. This is why the second stage of standardization should be launched without delay. As the most recent report on the standardization of freight wagons was only prepared a year and a half ago, only an interim report can be given at this juncture.

2. Existing standard designs became obsolete as a result of the decision of the UIC taken with a view to the adoption of automatic coupling, that, as from 1st January, 1965, all newly-built wagons should be capable of subsequent conversion to automatic coupling. Moreover, the continuance of studies on unification and standardization is largely bound up with the results of the running tests on automatic coupling in particular those on the safe operation of two-axle wagons which will only be published in the coming months.

3. The studies should also take account of the changing pattern of goods traffic and the development of mechanised loading and unloading operations, which result in the gradual discarding of certain types in favour of others, and also the increased use of bogie wagons. An ad hoc Group of the UIC responsible for this complicated and difficult question, is to submit its conclusions towards the end of the year.

4. Nevertheless the following definitions have been established since 1967:

- a new two-axle refrigerator wagon, more suitable for palletised loads, with the same chassis length as the two-axle "unified" covered wagon, Type 1;
- two types of bogie container wagons one capable of carrying container loads of 60 feet, and the other of 80 feet, the latter solely designed for unit trains whereas the former may be made to match either unit trains or ordinary trains;
- bogie car transport vans capable of 140 km/h with fixed upper deck.

5. Moreover, the characteristics of the bogie refrigerator wagons have been changed to take account of the increase in palletised consignments and a longer variant of this type is to be proposed in order to increase profitability. The Office for Research and Experiments has also drawn up standard designs of two types of unified bogie flat wagons and has chosen a standard bogie for wagons.

6. The efforts of the railway authorities to extend the EUROP pool to more modern types of wagons - an impulsion already given in 1961 by the ECMT - met with no visible success for a long time. A first step was made, after long studies, with the introduction of two-axle flat wagons; but even so this only applies to eight or nine Administrations of the Community and it has been necessary to set up the pool of flat wagons; which involves some disadvantages. At present the EUROP pool contains approximately 215,000 wagons and the fleet of flat wagons of the pool over 37,000 units.

7. However, the changing pattern of traffic and customers' requirements, which have already been noted, calls for further action. Thus the EUROP Commission decided, at a meeting held in November 1967:

- to study, as soon as possible, the extension of the EUROP Community to wagons other than covered wagons and two-axle open wagons;
- to consider at the same time, whilst giving priority to the foregoing problem, the possibility of recasting the EUROP Community giving it a new orientation and form.

8. The latter problem clearly involves that of the future of the EUROP Community; its solution will require careful study which will depend to a greater or lesser extent on the results of the studies on centralised freight traffic management. In the immediate future, the following types might be incorporated in the common pool: large-capacity two-axle covered wagons in current use, two-axle open happer wagons two-axle sliding roof wagons and bogie flats in current use.

9. We shall most certainly reconsider in due course, the results of the work of the ad hoc Group mentioned under 7, as regards the future pool of wagons and also that of the EUROP Commission.

IV. CONCLUSIONS

1. The first Conference of Ministers of Transport in October 1953 has already

dealt, in several Resolutions, with the standardization of railway rolling stock and the joint operation of freight rolling stock. The Council of Ministers has been annually informed on the progress made in these sectors by reports on the trend of traffic and investment and from time to time by detailed studies, as for example the following reports:

CM(59)9	on the standardization of locomotives and freight wagons;
CM(60)15	on the standardization of locomotives and freight wagons;
CM(64)7	on the standardization of freight wagons;
CM(65)3	on the standardization of locomotives;
CM(67)19	on the standardization of freight wagons.

2. As to locomotives, co-operation between the railways and industry - in particular through the efforts of the UIC the ORE and the CELTE - has led in recent years to satisfactory solutions both at national and at international level, in accordance with the wishes expressed by the Council of Ministers. The discussion of these problems may accordingly be considered as closed for the moment.

3. Contrary to the development noted for locomotives, it may be said that for freight wagons everything is still proceeding. The first period of standardization has been accomplished whilst the second due to the changing pattern of freight traffic and the introduction of automatic coupling, is still in its initial stage. The circumstances for drawing up a European programme for future freight wagons and for carrying it out economically are unique and should be utilised.

4. Considering the economic importance of this programme which will involve considerable financial charges for the purchase of wagons and conversion to automatic coupling, government action is essential.

A report will be submitted in due course on progress made and the difficulties encountered.

Annex I

EXTRACTS FROM REPORTS BY MEMBER COUNTRIES ON THE STANDARDIZATION OF DIESEL LOCOMOTIVES

1. Germany

As of 31st December, 1968, 2,183 out of a fleet of 2,234 Diesel locomotives (of more than 350 h.p.) were of standard type. It should be noted that in both 1964 and 1968 locomotives of all series corresponding to the ORE's classification were counted as standard-type locomotives, even if their homologation had not yet been pronounced.

The 2,183 Diesel locomotives referred to above fall into the following sub-classes:

Sub-class	Number of units
c_1	940
d_2	155
f_2	745
f_4	201
f_5	142

These figures should not, however, hide the fact that the ultimate objective of standardization - agreement through ORE on internationally recognised standard types of vehicle - has not as yet been achieved. Nor does it seem any more likely that the initial goals will ever be attained, considering that in the past 15 years the ORE Committee of Experts has homologated only four types of Diesel locomotives and that the basic objective of locomotive purchases through international tenders has not once been achieved.

This is due to the fact that most of the administrations concerned have entered the final phase of structural transformation and that the political and politico-economic conditions prerequisite to standardization at international level are far from being fulfilled.

2. Austria

There has been no standardization conforming to ORE standard types. Moreover, the ORE Committee of Experts is debating whether, in view of difficulties encountered at national level, the question of the standardization of Diesel locomotives should remain on its programme.

The number of Diesel locomotives is shown in the following table:

POWER RATING / DATE	TRANSMISSION							
	HYDRAULIC				ELECTRIC			
	Less than 351 h.p.	351 to 1,000 h.p.	1,001 to 2,000 h.p.	2,000 h.p. and over	351 to 1,000 h.p.	1,001 to 2,000 h.p.	2,000 h.p. and over	TOTAL
31.12.1964	101	88	4	-	20	18	-	231
31.12.1968	100	126	37	1	20	18	-	302

An additional 32 Diesel locomotives are scheduled for delivery before 1970.

3. Belgium

Standard-type Diesel locomotives purchased between 1964 and 1968:

TYPE	NUMBER	CHARACTERISTICS	DATE OF DELIVERY
210	100	Diesel-electric 1,400 h.p.	1964-1966
212	95	Diesel-electric 1,400 h.p.	1964-1966
260	27	Diesel-hydraulic 650 h.p.	1964-1965
262	55	Diesel-hydraulic 650 h.p.	1965-1966

The outlook for standardization is as follows:

The existing Diesel fleet is amply sufficient and no additions are planned for the next ten years or so. For the period thereafter, work is in hand to determine the advisability of purchasing more powerful locomotives with ratings of up to 4,000 h.p.

4. Spain

Certain characteristics of the RENFE's network (broad gauge and vacuum brakes as opposed to standard gauge and air brakes elsewhere in Europe) make it difficult to use the standard equipment planned for the remainder of the European network. As far as possible, however, the RENFE is now introducing some measure of standardization and, when purchasing new equipment, endeavours to keep to the European standard type, modified for use on the Spanish network.

In 1960, with the aid of a EUROFIMA loan, the RENFE acquired on a trial basis ten 725 h.p. locomotives of the standard type "d" defined by the ORE. These locomotives were built by a French firm and equipped with Spanish engines.

Good performance by the nearly entirely Spanish-built 350 h.p. (Diesel electric) and 550 h.p. (Diesel hydraulic) types since 1953-54 led the RENFE to build further series of the 350 h.p. (Diesel electric). The rating of this locomotive was subsequently increased to 400 h.p.

As of January 1969, the Diesel locomotive fleet comprised 255 units, including:

100 locomotives of the 10.300 series,

100 " " 11.300 "

2 locomotives of the 12.300 series,

53 " " 10.400 "

154 of these locomotives were acquired in 1964 and 1969.

Starting in 1966, a number of Diesel electric locomotives of American design but assembled in Spain have been purchased. These are used for light combined line operations and heavy shunting operations. Twenty-five such locomotives are currently in service and sixteen are being built.

As there is no standard type of European locomotive for passenger and freight traffic to meet the RENFE's requirements, it was decided to purchase locomotives from General Motors and ALCO. Such locomotives are used throughout the world and offer considerable advantages, including speedy delivery, assembly in Spain, and more attractive prices.

The RENFE has chosen three such locomotives, with ratings of 1,370, 1,977 and 2,180 h.p. and has bought 50, 80 and 70, respectively, of each type.

In addition to the foregoing, the RENFE has purchased 32 German-built 4,000 h.p. Diesel hydraulic locomotives for express passenger trains.

Ten specially designed German-built locomotives with a rating of 2,000 h.p. were purchased to haul the TALGO III trains; five of these were imported directly from Germany and five were assembled in Spain. An additional five 3,000 h.p. locomotives, also built to special specifications, were acquired.

5. France

The 2,650-kW CC 72,000-type Diesel-electric locomotive will be suitable for two types of operation being convertible from

passenger to freight operations simply by changing the setting of the reducing gear train. This notion of dual-purpose locomotives has made it possible to operate with a smaller number of stand-by units and has facilitated rotation of locomotives.

The power-rating classification for Diesel locomotives has been reduced to four classes (600-700 kW, 1,000-1,200 kW, 1,700-2,000 kW, 2,600 kW and over), represented by the following series of locomotives:

63,000 (600 kW)

66,000 (1,030 kW)

67,000 (1,760 kW)

72,000 (2,650 kW and over).

In the last three years, no orders have been placed for locomotives of the 68,000 series (1,985 kW) which overlapped with Class III.

6. United Kingdom

None of the locomotives used are used internationally and the question of compatibility with international standards does not arise. The only possible exception to this could be locomotives constructed for eventual use in the Channel Tunnel, when this is completed. However, as no firm decision on this has yet been taken, British Rail have taken no steps to build locomotives to standardized European design. If locomotives are eventually required for Channel Tunnel operation, compatibility with standards adopted by the International Union of Railways (UIC) as far as they apply to vital parts, such as coupling and braking, would be arranged.

7. Greece

In preparing the agreements for building Diesel locomotives for the Greek Railways account was taken of the standards adopted by the UIC for constructing the various basic parts.

At the beginning of 1969 the Greek Railways had 93 units in operation on the standard track including 27 American, 26 French and 40 German-built. Most of them were delivered between 1964 and 1968.

8. Ireland

Owing to the fact that the rail gauge is of non-standard type, there are no standardized locomotives in use in Ireland. Córas Iompair Eireann (CIE), has no intention at present of purchasing additional locomotives.

9. Italy

The problem of standardizing Diesel locomotives was undertaken some years ago by adopting the standards and regulations finalised by the UIC and ORE. Lately, however, the practical results have been negligible except for the international "homologation" of four types of Class "f" Diesel locomotive, including the Italian Railways' type D 341. Type D 141 in Class "d" is the only standard locomotive out of 39 in service.

The Railway Authorities have had these locomotives equipped with Diesel engines of different types and power categories so as to make use of national production.

International standardization is not expected on any sizeable scale in the future in view of the level of dieselisation already reached and the rapid development in the characteristics of the engines.

10. Luxembourg

The last consignment of 20 1,800 h.p. Diesel-electric locomotives was delivered in 1964. These locomotives are of a homologated type.

The CFL intend to observe ORE standardization norms when making future purchases.

11. Norway

For the period from 31st December, 1964, to 31st December, 1968, the number of standard-type Diesel locomotives stood at 3 type f4 and 28 type g2 locomotives.

In 1969, the NSB will take delivery of four type g2 locomotives. No plans have as yet been made for the post-1969 period.

12. Portugal

Additions to the locomotive fleet between 1964 and 1968

a) 50 Bo' Bo' Diesel-electric locomotives; power rating: 1,370 h.p. (UIC-623); maximum speed: 105 km per hour.

b) 36 Diesel shunting locomotives,

with hydraulic transmission, power rating: 350 h.p. (UIC-263) and maximum speed: 50 km per hour.

Current purchases and orders to be placed before 1973

a) Seventeen Diesel-electric locomotives similar to those referred to in 1a); scheduled for delivery in 1969.

b) Ten Co' Co' Diesel-electric locomotives with a power rating of 2,700 h.p. (UIC-623) and a maximum speed of 140 km per hour; scheduled for delivery in 1969.

Short and medium-term trends

General use: continuing use of type f3 for all practical purposes.

Heavy operations: adoption of type Co' Co' (2,600-2,700 h.p.).

Branch lines with light traffic: standard-type d_1 locomotives, 25 of which are already in service.

Shunting operations: standard-type c_2 locomotives.

13. Sweden

The locomotives acquired by the S.J. since 1964 differ in a number of respects from those belonging to other railway administrations. Although they do have a number of components built to international norms, their design is geared to the specific operating conditions encountered in Sweden (bar standard, design profile, climatic conditions, etc.).

Nonetheless, the S.J. endeavour to obtain standard-type locomotives, albeit in a slightly different sense from that employed by the UIC. When placing an order in 1967, the S.J. stipulated that the locomotives delivered should be series-built or assembled from tried and proven series-built components. The result has been to limit the number of types of locomotives in use and to extend standardization. The S.J. have not restricted themselves to European makes, but have also bought from American manufactures.

14. Yugoslavia

The following table gives the total number of locomotives at the end of 1968 and orders to be placed before 1972.

TYPE	TOTAL at end 1968	ORDERS to be placed BEFORE 1972
Diesel-electric locomotive, 6-axle, 1st series of this type	131	25
Diesel-electric locomotive, 6-axle, 2nd series of this type	12	5
Diesel-electric locomotive, 4-axle, 1st series of this type	15	-
Diesel-electric locomotive, 4-axle, 2nd series of this type	86	14
Diesel-electric locomotive, 4-axle, 3rd series of this type	22	-
Diesel-hydraulic locomotive, 3-axle, 1st series of this type	47	-
Diesel-hydraulic locomotive, 3-axle, 2nd series of this type	2	-
Diesel-hydraulic locomotive, 3-axle, 3rd series of this type	1	14
Diesel-hydraulic locomotive, 4-axle, 1st series of this type	3	-
	319	58

Annex 2

EXTRACTS FROM REPORTS BY MEMBER COUNTRIES ON THE STANDARDIZATION OF ELECTRIC LOCOMOTIVES

1. Germany

Roughly 78% of the 2,200 electric locomotives operated by the DB belong to the four nationally unified series. Recently built electric locomotives include, in addition, a number of special series units for hauling high-speed trains or operating on several different types of current.

Identical parts are widely used in all four unified series.

Insofar as motor construction is concerned, the DB has prepared a set of specification leaflets which include only tried and tested materials and parts and are based on internationally accepted norms for the railway administrations (e.g. the UIC Code leaflets).

Differences in the systems of electrification and operating conditions encountered on the various networks, together with the size of the existing electric locomotive fleet, leave little possibility for international standardization as of the present; for these reasons, electric locomotives, contrary to wagons, offer the least possibility for unified construction.

2. Austria

While the ORE has in fact issued recommendations concerning pantograph design, no provision has been made for the standardization of the various parts or of entire pantographs. Standardization is based on bilateral agreements such as the Austrian-Swiss agreement stipulating that the pantographs of Austrian locomotives crossing over into Switzerland shall incorporate Swiss-made parts as far as possible. There is no restriction on the use of national-type models in international traffic over the DB network.

Insofar as recommendations have been issued by the UIC, the International Electrotechnical Commission or the European Committee for Co-ordination of Electrotechnical Standards regarding the equipment of electric motors these are observed in building new locomotives.

The following table shows the breakdown of the electric locomotive fleet by power rating:

Power rating / Date	351-1,000 h.p.	1,001-2,000 h.p.	2,001-3,000 h.p.	3,001-4,000 h.p.	4,000 h.p. and over	Total
31-12-1964	55	77	51	101	138	422
31-12-1968	54	75	51	101	192	473

Twenty-seven electric locomotives and three rail cars are scheduled for delivery by the end of 1970.

In the years to come, the OBB will also be trying out thyristor locomotives and attempting insofar as possible to modernise older series by incorporating diode or thyristor circuits.

3. Belgium

No attempt has been made to standardize electric tractive units according to international norms.

4. Spain

In 1963 and 1964, 37 ALSTHOM electric locomotives similar to a French model were purchased.

In 1967, 16 Japanese-type locomotives (Mitsoubiski) were placed in service on the Spanish network. An additional 40 locomotives of this type are on order for delivery in July 1969 and September 1970.

5. France

The two systems of electrification in use on the French railway network (1,500-Volt DC and 25,000-Volt 50 cycle AC) have resulted in the construction and operation of a fairly sizable number of dual-current locomotives. The electric locomotive fleet thus includes three categories of locomotive (DC, single-phase and dual-current), plus a number of units operating on several different types of current, for use in international traffic. Within each power bracket, however, these engines, have been designed to incorporate the greatest possible number of common components. Thus it is that all medium-power locomotives feature the same single-motor bogie. Similarly, an attempt has been made to adopt components common to both electric and diesel-electric locomotives, with the result that the 2,650-kW diesel locomotive is equipped with bogies similar to those on the 4-current CC 40100-type locomotive and traction motors similar to those of the 25500 electric locomotive.

Another long-used method of standardization consists in building electric locomotives with single-motor bogies convertible from passenger to freight operations simply by changing the setting of the reducing gear train.

6. Italy

No progress has been made in standardizing electric locomotives because no European body has so far taken any initiative in this respect. The reason for this is believed to be due to the difference in types of current in Europe (1,500 and 3,000 Volt DC, 15,000 Volt - 16 2/3 S/c and 25,000 Volt - 50 S/c).

7. Portugal

Additions to the locomotive fleet between 1964 and 1968

10 Bo' Bo' electric locomotives for operation on 25 kV, 50-cycle single-phase current; power rating: 1,760 kW (UIC-610) or 2,700 h.p. (UIC-614); maximum speed: 120 km per hour.

Current purchases and orders to be placed before 1973

10 electric locomotives similar to those already in service but with a maximum speed of 140 km per hour; order to be placed in 1970-1971.

9. Yugoslavia

The following table gives the total number of locomotives at the end of 1968 and orders to be placed before 1972.

TYPE	TOTAL at end 1968	ORDERS to be placed BEFORE 1972
1. Electric locomotive, 6-axle, 3,000 Volt DC, first series of this type ...	16	-
2. Electric locomotive, 6-axle, 3,000 Volt DC, second series of this type ...	45	5
3. Electric locomotive, 4-axle, 3,000 Volt DC, first series of this type ...	1	-
4. Electric locomotive, 4-axle, 3,000 Volt DC, second series of this type ...	12	33
5. Electric locomotive, 4-axle, 25 kV 50-cycle single-phase current	48	152
	122	190

REPORT OF THE COMMITTEE OF DEPUTIES ON THE EFFECTS OF CONTAINERISATION ON RAILWAYS

CM(69)9

Introduction

1. Examination of the effects of containerisation on railways by the Railways Committee has been influenced by several considerations relating to its function, which is to examine the problems besetting the railways of Member countries, and in particular, their financial problems. Railway administrations may regard containerisation merely as a development which creates new problems and difficulties for the railways: alternatively they may take the view that it presents them with opportunities to improve their competitive position, reducing their operating costs and at the same time enabling them to offer a better quality of service to trade and industry. Should their reaction be a passive one, i.e., of merely adapting themselves to containerisation to the extent that they cannot avoid it, because users demand it ? Or should they exert themselves to develop new techniques, retain their present share of total traffic, and perhaps recover some part of traffic which they have lost to competitors ? The attitude taken by governments and railway administrations to this issue will have significant effects on the future role of railways.

2. The Committee has proceeded from certain general assumptions about the characteristics of freight traffic by rail which are especially relevant when considering containerisation. The railways have an undoubted advantage over other forms of surface transport in moving large quantities of goods at high speed between two points on their system. Improvements in traction and signalling accentuate this advantage. As a general rule, however, the railways progressively forfeit this advantage as they move smaller volumes of traffic over shorter distances between a multiplicity of points of origin and a multiplicity of destinations. The terminal processes of collecting wagons to form trains, and of dispersing trains into single wagons, or small numbers of wagons, at destination, and the intervening passage through marshalling yards, consume time and manpower, involve risks of damage to some commodities, increase costs and erode the advantage of speed in the trunk haul. Thus, it is the operation of trains, not wagons, direct from origin to destination which enables railways to exploit their technical characteristics to the greatest advantage.

3. The competitive disadvantage to which railways are subject in handling short-distance traffic, offered in quantities of less than train-loads, is increased if, at either or both terminals, a terminal haul by road is required involving the expense of double-handling with its time, labour and additional risk of damage. Since many transport users demand rapid, door-to-door transport of commodities which move in wagon-loads, or lesser quantities, they have turned to road transport, which can meet these demands where the railways do not.

4. The container, moved by road the terminal haul and by rail for the trunk haul, enables a door-to-door service to be provided. If the loading and unloading of the container are mechanised, it can reduce the disadvantages in time and cost, of double-handling. This has been well-known for years, and needs no enlargement. But it is not decisive for the railways, so long as containerised, like uncontainerised, traffic continues to be shunted and marshalled. The advantages of train-load operation have for long been exploited by railways wherever opportunity offered, in handling bulk traffics. If the railways are willing to do so, they can organise themselves so as to handle containerised traffic also in complete train-loads, operating through high-speed services on regular schedules. In this way, the advantages to the user of a rapid, door-to-door service (which have so often led him to prefer road

transport) are combined with operating economies to the railways, improving their competitive position. Transport users can be offered the benefits of train-load operation even though they do no offer train-load quantities.

5. For the purpose of this report, "containers" are taken to mean the large containers which have recently come into use; these are generally of light-weight alloy/steel construction and approximate to ISO standard dimensions of 8' x 8' profile and 10', 20', 30' and 40' length. Such containers are the basis of what is popularly called the "container revolution". The most important characteristics of these containers lie in their standard size, which permits ready transfer from one mode of transport to another and enables them to be carried on all European railways.

This point has a most important bearing both on international traffic and on the development of containerisation. Reference is made to it in the report on present problems concerning container transport and roll-on/roll-off services [see CM(69)7].

Sources of containerised traffic

6. There are two distinct sources of containers which may provide traffic for European railways. The first of these is the deep sea shipping trade, notably the North Atlantic trade. Shippers are switching to the use of containers, and these containers will be arriving in increasing quantities at European ports. The choice for the railways here is simple: should this traffic be catered for, or not? It not, then the container will presumably move by road or some other inland method. This source of containers is comparatively easy to forecast and cater for.

7. The other source of container traffic is trade inside Europe. This is more difficult to predict, because its development will depend upon the assessments and decisions of the users and of the railways themselves. It presents the railways with a choice involving some complex factors: should they cater for, and, indeed, encourage the development of containerisation ? Or should they rely on being able to attract and retain, by traditional wagon-load working, traffic which is subject to competition from road transport ? It is significant here that users are already increasingly recognising the attractions of containers, which exist apart from the mode of transport by which they are carried. It may be inferred from this that the railways, by offering attractive services, are in a position to encourage containerisation. If, however, they are indifferent to it, they will not prevent its extension; they will merely see the traffic pass elsewhere.

8. At present, inter-Continental container traffic is predominant. But there is no doubt that containerised traffic within Europe will grow.

Present developments

9. The most conspicuous efforts being made by European railways to adapt themselves to containerisation are, as respects internal traffic, the British freightliner system, and, more recently, the extensive network of container services on the German Federal Railways; and in international traffic, the system organised by the Intercontainer Company.

10. The British freightliner system involves the carriage of standard-sized containers on continuously coupled, flat wagons which make fast, scheduled journeys between freightliner terminals. These terminals are generally situated in important industrial centres generating high-density traffic. Containers are collected and delivered by road to and from customers' premises within the catchment area of each freightliner terminal. This system started towards the end of 1965; at the moment carryings are at the rate of some 3.5 million tons per annum, and the British government has recently approved further expenditure on the system. With this further expenditure, the total cost of the development will be about £ 26 m, and the network will consist of some 22 terminals and 80 services, in addition to maritime terminals and services. The Group of Rapporteurs was instructed, in its terms of reference, to take account of British experience. For the benefit of readers who are not familiar with the basic features of the British "freightliner" service, a fuller account is contained in Appendix IA. Recent developments in the Federal Republic of Germany as described in Appendix IB.

11. The intercontainer company has been formed by European railway administrations. Its object is primarily commercial; it deals only in international traffic and may be likened to a "middleman" between the railway administrations and the shippers: Intercontainer buy train journeys

wholesale from the administrations and sell space on those trains to the shippers. In addition, Intercontainer also deal with handling, and collection and delivery door-to-door. Intercontainer has only recently started, and initially concentrated on the maritime traffic described in paragraph 6 above. A summary of the information provided by the company is at Appendix II.

Considerations affecting viability

12. Indications are that the choice of whether or not to organise themselves to handle containerised traffic will not lie with the railway administrations alone. Assuming that railways accept the need for adaptation, they will be faced with a series of decisions of extent, investment, organisation, and marketing and choices between different possible courses under these heads. A large-scale conversion to containerisation will be expensive in new equipment and terminal installations; from a book-keeping point of view, it may involve the accelerated writing-off of conventional equipment, some of it comparatively new, which might be made surplus. The impact will, however, be different according to how it is decided to handle and organise containerised traffic. If containers are to be dealt with (except, of course, as concerns methods of loading onto and from railway wagons) in much the same way as conventional traffic - if they are to be collected in small numbers from private sidings or at various goods depots, hauled in trains together with normal wagons, marshalled and delivered, again in small numbers, at various destinations, then the processes already in use will continue, and change will be a matter of degree, not of kind. In that event, however - unless train movement and the marshalling system are substantially improved - the opportunities offered by more radical change will not be exploited, and it is doubtful whether the containerised services will be so superior to existing methods as to retain traffic in the face of competition, let alone to recapture it.

13. If, on the other hand, it is decided to operate regular services of train-loads of containers, the selection of routes to form the network will need care, and some criteria will have to be adopted for assessment of traffic prospects in order to direct investment to those routes where it will be justified by adequate returns. The organisation and management of terminals and of terminal haulage services by road, and possibly the overall control of the container services, will have to be examined.

Choice of routes for containerised traffic

14. The main factors which appear to the Railways Committee to be relevant are:

i) the volume of traffic;

ii) its type;

iii) the length of haul.

Volume and frequency

15. It is primarily a matter of identifying substantial flows of traffic between main centres, and estimating how much of it is potentially containerisable. Probably much of the potential traffic already moves by rail, but in suitable circumstances, it is not too optimistic to assume both that a proportion of traffic may be recaptured from road, and that an attractive service, once in operation, will generate some entirely new traffic. (For British experience in this connection, see paragraph 24 below.) The critical volume is determined by the frequency of service at which the railway aims, which will need to be at once attractive to users, and economic and convenient to operate. (In Great Britain, the aim is to offer a nightly service on five days per week, with a lapse of not more than 12 hours from terminal to terminal, thus affording overnight, door-to-door delivery, with obvious advantages to trade and commerce.) The other determining factor is the capacity of the container train. Frequency x capacity gives the annual quantity which justified the introduction of the service. (In Great Britain, this figure is put, as a rough guide, at 100,000 tons, but under different conditions of operation, another figure would be appropriate.) Whether the assumed, critical volume of traffic can be achieved is a matter of estimation, and careful marketing research is of the utmost importance.

Type

16. In speaking of the "type" of traffic, the Railways Committee are not referring to the actual nature of the goods conveyed. Virtually any commodity can be moved by container, unless physically excluded by reason of its dimensions, or, perhaps, by its noxious or dangerous nature. A surprisingly wide range of goods, from grouped consignments to some bulk traffics, are moved by container. Type of traffic in this

context concerns the users' needs - the conditions in which the traffic originates, the quantities in which it comes forward, the need for fast, door-to-door conveyance, and considerations of that kind.

Distance

17. The critical distance, again, will vary with different national circumstances. In Great Britain, the great majority of hauls by road are of distances of up to 60 miles, and 100 miles is generally considered to be roughly the point at which rail becomes competitive with road for the transport of goods. These distances however, arise from circumstances which may be peculiar to Great Britain, and other distances will be valid elsewhere. Comparable guiding figures for hauls between given points in Continental Europe can only be established by examination of the factual situation; theoretical generalisations will not help. It should not be too difficult, however, for railway administrations to estimate the distance over which express freight trains, operating a scheduled services, have decisive advantages over competing carriers. In general, the longer hauls which are possible in international freight traffic would seem to open up considerable opportunities for the railways to offer highly competitive services, provided that efficient and commercial operation across frontiers can be established.

Charges

18. Price formation is another important factor. Having reached a view of the prospective volume of containerisable traffic, the administration will have to make some assumptions as to price, in order to assess the prospective revenue. Since price structures and policies vary, it is not possible for the Committee to suggest general rules. They feel justified in assuming, however, that the railways' costs dictate the minimum rate, and competition in the market will dictate the maximum. (If, in view of market conditions, the price which a proposed service is judged likely to command is less than its marginal cost to the railway, presumably the project will be abandoned.) The current freight rate for comparable transport by other means - normally, road - need not be a rigid upper limit, since it may be that, at a rate which is as high, or even a little higher, the railways, with a containerised services, will be able to provide transport of much better quality (i. e., as regards speed and reliability.) From the point of view of charging policy, containers offer certain advantages of simplicity. They are homogeneous, and have uniform handling characteristics, and the railway need not concern itself with the actual nature of the contents, but can base its costs, and hence its price, on the movement of a container as such. An important policy consideration in this context is that, given elasticity of demand, the prospective volume of traffic will be affected by price. The administration's plans, therefore, will differ according to whether they aim to maximise traffic, or to maximise profit. Given the current financial situation of most railway administrations and the investment involved, it is reasonable to assume that administrations will seek a return which is as far above marginal cost as the market will permit.

19. The relative rates for containerised, as against wagon-load, traffics will need thought. More than one point of view has been advanced on pricing policy in this respect. On the one hand, it can be argued that it would be wrong, by fixing rates for containerised traffic substantially below those for wagon-load traffic, to divert traffic artificially to containers and hasten the obsolescence of existing equipment (both that of the railways and that belonging to users who have private sidings). On the other hand, if the railways, on the basis of experience and sound calculations, concluded that the maximum transfer to containers would promote efficient and economic operation, and that the continued provision of an extensive wagon-load service would impose greater costs upon them, it would seem right for them to charge higher rates for the latter traffic. This problem, however, lies in the future, since containerised services first have to be established and to prove themselves. If expectations proved justified, then the trend towards containerisation and away from wagon-loads, based on the comparative merits of the services and the preference of users, would manifest itself. The pricing policy to be adopted could be based upon more reliable estimates; and there would be no question of forcing container services upon reluctant users by an artificially low rate.

20. The above, then, appear to the Committee to be the main factors determining the probable viability of a through service of train-loads of containers. It is in the light of assessments under those heads - together, of course, with estimates of capital expenditure and operating costs - that viable routes can be selected.

Control and Organisation of Terminals

21. If a containerised system is to be a success, efficient operation of the terminals is essential. It would be absurd if time saved on the trunk rail haul and by the avoidance of marshalling were frittered away by delays at the terminals. Terminals must be efficiently run; of a suitable size; and equipped with proper machinery to enable transfers between road and rail to be carried out expeditiously. It is also, of course, extremely important that terminals be sited where there is suitable road access - it is obviously desirable as far as possible not to carry containers through crowded urban streets. To the extent that the arrival and departure times of container trains can be arranged to fall well outside the peak hours of urban traffic, collection and delivery services by road, centred upon the terminals, will be swifter and their effects on urban traffic congestion will be reduced.

22. It is obvious that the supply of road vehicles for terminal haulage must be adequate for the volume of container traffic passing through the terminal. The ownership and management of these vehicles may be diversified, and diversification has advantages. Given the objective of making the containerised service attractive to users, it is desirable that consignors should be able to use the terminal road haulage which they prefer - own account vehicles, professional road haulage, or services provided by the railway administration or (where such exists) a specialised, subsidiary entity formed specifically to organise and manage the containerised service. It is a matter of some importance that the organisation which operates the container terminal should operate, or have effective control over, at least a proportion of the road vehicles engaged in terminal services, for two reasons: it will wish to be in a position to offer a reliable, door-to-door service to users who may have no road transport conveniently available; and it must be able to ensure that containers moving through the terminal, inwards or outwards, are promptly cleared (otherwise, operational space may be congested by containers awaiting despatch by rail, or distribution by road). It may be noted that if such collection and delivery services are provided by the railways there is no reason why a charge should not be made for this service; indeed this could, and should, become a useful source of revenue to the railway administration.

23. In a system designed for the movement of train-loads of containers, practical considerations of railway operation indicate that control of the terminals is best exercised by the railway, or by an organisation with a strong railway element. At the same time, the object will be to maximise the containerised traffic passing through the terminal, and it is therefore very important that all potential users should have free access to them.

Effects on Conventional Railway Traffic

24. The effects on conventional railway traffic of a policy which encourages the use of containers for the movement of freight can only be estimated. The first point to make is that a great deal of the traffic passin in containers - to judge from British experience - will not be transfers of existing rail traffic, but will be traffic newly generated, or traffic which had not been carried on rail for some time. In respect of the British freightliner system, it is estimated that only about one-third of the total traffic is transferred traffic, the rest being new traffic. The opportunity offered by a containerised system of winning completely new traffic is very important.

25. The method of handling existing traffic as containerisation proceeds depends on the characteristics of this traffic. It depends on the quantities in which it comes forward; the length of haul; the terminal arrangements; and the users' requirements. As far as can be foreseen, there will continue to be a demand for conventional railway freight services, though if the railways are to operate economically, the emphasis is likely to move increasingly from wagon-loads to train-loads. This trend will clearly be accentuated to the extent that services are withdrawn from local lines, and traffic is concentrated on trunk routes. Government decisions on the future size of railway networks and the concentration of traffic on trunk routes will have a major effect on this development. It may be noted that in the opinion of some administrations all wagon-load traffic, except that consigned from private siding to private siding, is likely to decline sharply over the next few years.

27. The variable factors outlined above make it extremely difficult to generalise about the impact of containerisation on conventional traffic. This potential impact is a factor which will have to be taken into account, and considered in more detail, in the context of the precise form

in which containerised services are to be provided by any particular administration. Indeed, in many cases it may be possible to identify specific flows of wagon-load traffic which are likely to switch to containers, and, per contra, specific flows which are not likely to switch, and to calculate the effects of containerisation accordingly. As experience in the extension of containerised services grows, increasingly reliable assessments will be possible.

Financial considerations

28. As pointed out in the opening paragraph of this report, the financial problems of Member countries' railways are the primary pre-occupation of the Railways Committee. With this in mind, the Committee feels justified in assuming that a major consideration in the progress of containerisation is the contribution it can make to profitable railway operation. On this assumption, it believes that railway administrations would be well-advised to seize the opportunities offered, as described in this report. Equally strongly, the Committee recommends that the organised extension of containerised services should be selective, and not indiscriminate. Profitability should be assessed by reference to estimates of traffic, charges and costs, as discussed in the preceding paragraphs. Just how profitable any service can become depends on many factors, some of which may not be within the control of administrations themselves. These include the nature and type of potentially containerisable traffic on offer; the attractiveness of, and charges made by, competing road, water or air services; Government policies on charging matters; and Government policies on the return to be expected from investment in the railways.

29. The United Kingdom experience may be cited as an example. The Government have approved investment of approximately £ 26 m (excluding road vehicles) in the freightliner system. By normal standards of railway investment, this is not a strikingly large sum. In the United Kingdom, the current rate below which no investment project by a nationalised industry is normally accepted, is 8% internal rate of return. The Government examined very carefully the Railways Board's plans and calculations in respect of the freightliner system, and concluded that the proposal met this criterion with a useful margin. Traffic is building up in accordance with estimates.

30. In the conditions in Great Britain - where the road transport of goods is highly competitive (accounting, in 1966 for over 70% of the total ton-kilometres performed) - the prospects are highly encouraging. It is not possible, in view of the variable factors which have been mentioned, for the Committee to forecast what the results might be in the different conditions of other networks, but once railway administrations and governments have made the necessary assumptions as to expenditure and rate formation, the prospects of viability will be capable of assessment in different circumstances, both national and international.

31. In considering the costs of a projected containerised service, there are two different factors to bear in minds. The first is the long-term future costs of operating the system - the costs of terminals, cranes, specialised wagons and containers, etc., a proper allocation of haulage, track and signalling, and administrative costs; and the direct labour involved. The second factor, which may be considered relevant, is the cost, in the book-keeping sense, of past expenditure on conventional installations and equipment, as yet not wholly amortized, whose obsolescence may be hastened by the transfer of traffic - however this transfer comes about - which follows the introduction of a containerised system. The suggestion has been made that the charges for the containerised system should reflect not only the first category of costs, but also the second.

32. As the closer alignment of charges and costs is dealt with in another of the papers submitted to the Council of Ministers, it is outside the scope of this report. However, in the specific context of calculating the cost of containerisation, the Committee's view is that only future costs (i.e., the first category mentioned in paragraph 31 above) should be taken into account. Not only does this appear theoretically correct, but in addition, it would be extremely difficult to isolate the effects of containerisation upon conventional traffic from those of various other factors at work, and decide, in quantitative terms, what adjustments should be made to the future costs on the score of containerisation alone. In fact, the Committee doubts whether this is possible. Even if the calculation could be made, it is questionable whether it would be right to increase the estimated costs of a containerised system, and so handicap it from the outset as compared with competing carriers, who need

take no account of such past capital. If the Committee is right in believing that the calculation cannot be made with any reliability, it would be even more ill-advised to risk loading the costs of the containerised system with estimates related to accelerated obsolescence of existing equipment which are largely arbitrary.

33. In these circumstances, it seems to the Committee desirable that administrations should in the first place take account only of the future costs and, in their accounts, should show the results of the containerised operation separately from the results of other freight operations. Later on, from knowledge gained of the particular traffics actually attracted, administrations could, if they saw fit, decide how much, if any, of the loss on wagon-load traffic should be attributed to, and set off against, the surplus on containeris d traffic. This factually certain approach would, in the view of the Group, also be the best approach from the point of view also of management discipline, in that it would give recognisable targets at the outset to those concerned with the management of the containerised services and other services.

Marketing

34. It has been pointed out at several points in this report (paragraphs 4, 7, 26) that the pace and extent of containerisation on railways will be governed very largely by the attitudes and decisions of governments and railway administrations. Assuming that it is decided to grasp the opportunities offered, marketing will be an important element. This is not simply a matter of drawing attention, by normal forms of publicity, to the availability and advantages of containerised services: the user is also involved in the change in technique, and development will be assisted by the provision of some form of advisory service which, by direct contact, can give guidance to prospective users about the changes in their own methods of handling, despartch and receipt which will enable them to obtain the maximum benefit from the new method.

Summary of conclusions

35. i) Since containerisation in general is dealt with in another study submitted to the Council of Ministers, this Report has approached the question of railways and containerisation on the basis that containers are here to stay, and the Committee therefore thinks it right to place on record its own conclusion that containerisation is a most valuable development towards the general efficiency of industry, and is a development which is still growing.

ii) The railways can influence the development of container traffic, but cannot prevent it. They can, if they choose, organise themselves to handle containerised traffic with speed and economy, and win a substantial share of it. Alternatively, they can decide to limit their activities in this field; but if they do this, they are likely to see the growing container traffic carried by other modes.

iii) Whichever choice is made, containerisation is likely to erode traditional wagon-load traffic (unless by deliberate policy governments decide to limit the carriage of containers by other modes also, thereby depriving trade and industry, to a corresponding extent, of the economic advantages of this transport technique).

iv) The pace and extent of development, and, consequently the impact upon conventional railway methods, will be greatly influenced by the policies of railway administrations and governments, and especially by the extent to which national circumstances call for the concentration of railway freight services upon long hauls over trunk routes, and the organisation of movement in trainloads in preference to wagon-loads.

v) From the point of view of the effect on the railways' financial problems, it is important that any plan to develop services of container trains should be selective, not indiscriminate. The main criteria of selection are described in paragraphs 14 to 19 above. Administrations should be encouraged to develop first those services which offer the best prospects of profitability. This will not be achieved by attempting to force the pace, or substituting containerised services where wagon-load traffic, or transport by other modes, is more economic and equally efficient.

vi) In considering profitability in this context, administrations should in the first place take account only of future costs (including a proper

allocation of track, signalling, haulage and other, expenses) appropriate to a containerised system. Although some of the traffic for a containerised system would come from present wagon-load traffic, and would consequently tend to hasten the decline of certain traditional activities, it does not seem right to take into account, in considering costs of the containerised system, any accelerated amortization of conventional equipment; this is so not only on theoretical grounds but, perhaps more important, on practical grounds of lack of precision.

vii) A containerised service on the general lines set out above involves, of its nature, a substantial degree of road/rail co-operation in the operation of terminals. It enables the inherent advantages of each form of transport to be combined, and the railways to improve their competitive position.

viii) It is clear that one of the chief advantages of containers lies in their standard size, which permits ready transferability from one carrier to another. The question of standardization is, therefore, extremely important and it is necessary for governments to do all they can to bring about this standardization. The Council of Ministers' Resolutions of 12th December, 1967 (No. 18) and 12th June, 1968 laid great stress on this very point.

ix) As the development of the Intercontainer Company's activities shows, there is considerable scope for co-operative development of intra-European, door-to-door containerised services, and national railway administrations can in practice overcome the initial organisational and commercial problems of this form of operation. This development is encouraging, and it would be fully consistent both with the potentialities of the container technique and with the aims of ECMT in promoting efficient international transport, if it were pressed ahead as far and as fast as possible.

Recommendation

36. A system of containerised services, offering regular, rapid, door-to-door transport, gives the railways an opportunity of recapturing some lost traffic and attracting new traffic. Carefully selected and efficiently organised, such a system offers the prospects of a satisfactory return on invested capital, a better use of railway potential, and a high quality of service for users.

37. It would be highly ill-advised to neglect these opportunities, and governments and railway administrations are recommended to undertake or encourage the necessary studies of traffic flows at international and national levels, and to take a positive attitude towards this development.

Appendix I

A. NOTE ON BRITISH RAILWAYS BOARD'S FREIGHTLINER SYSTEM

Containers of one kind or another have been used by British Railways, as by all railways, for many years, but the "Freightliner System" is based on the use of the new large ISCO containers. There are two fundamental ideas behind the system: to utilise both road and rail facilities in the most efficient mix, which requires easy transfer between the two, and to handle as one unit a large number of small diverse consignments whose separate handling would be both expensive and inefficient.

Freightliner trains consist of continuously coupled flat wagons, on to which containers are loaded, which make fast scheduled journeys between Freightliner terminals. These terminals are generally situated in important industrial centres (though they are, as far as possible, so sited as to avoid unnecessary urban road travel) and containers are delivered and collected by road to and from customers' premises in the area. The Railways Board will arrange collection or delivery services by road if desired, but these may be provided by other public or private hauliers, or by the customers themselves.

The essence of the freightliner concept is that it is space on the train that is sold, and that charging relates to the container, not to its contents or weight. Containers may belong to the Railways Board, the forwarding agent, or the customers; any standard-sized container will be accepted. The Freightliner system does not provide groupage services, but the British Railways' Sundries division collects small consignments and where appropriate groups them into containers to be carried by freightliner.

A wide variety of traffic can be carried on this system: the minimum economic length of haul is usually a more relevant constraint than the type of merchandise. Freightliners are highly competitive for most types of goods on routes of over 150 miles, and, given favourable circumstances, can complete with road haulage at distances as low as 75 miles.

Carrying freight in train-loads rather than in wagon-loads reduces shunting and marshalling (and, therefore, shocks), and enables modern rolling stock to be used. The freightliner System means that consignees of small loads can enjoy these advantages as well as those whose consignments are large enough to fill a train.

British Railways ran the first freightliner service in November 1965, and 17 terminals are now in use. Further expenditure that has been approved will bring total expenditure on the scheme to about £ 26 m, (excluding road vehicles) providing a network which will consist of 22 terminals and some 80 services, in addition to maritime terminals and services. In December 1966 the system was carrying approximately 1,200 containers per week on average: in October 1968 it carried over 7,000 per week. At approximately 10 tons of freight per container, this would give an annual carrying of over 3.5 million tons.

Under the Transport Act, 1968, the freightliner activities of the Railways Board, together with the assets involved, were transferred on 1st January, 1969, to a new company - Freightliners Ltd - jointly owned by the Board and the National Freight Corporation (a body also set up under the Act). The Railways Board, of course, continue to own the track wagons and locomotives.

B. NOTE ON THE DEVELOPMENT OF CONTAINER TRAFFIC IN THE FEDERAL REPUBLIC OF GERMANY

The latest developments in container traffic both overseas and internal, by rail in the Federal Republic confirm the positive forecast which the Federal railways made

in 1966 - when considerable uncertainty surrounded container traffic in general. In the meantime, as respects the volume of traffic and the level of investments the "point of no return" has long since passed in the Federal Republic.

In overseas container traffic the Federal Railways' carrying in 1968 increased to 36,000 loaded and 26,000 empty containers (in round figures) of all sizes from 20' to 40' long, as compared with 9,401 loaded and 7,954 empty containers in the previous year. On the basis of the actual average load of 10.5 tons, this volume of traffic represents an increase of 28% (100,000 tons) from 1967 to 1968. A further result was that the rail-borne share of traffic to and from German seaports increased substantially, from about 30% in 1967 to about 50% in 1968. In order to deal with this volume of traffic and to keep pace with the further increase expected in 1969, the construction of the network of points for handling containers will be further extended in 1969. In the first half of 1969, 33 container terminals, equipped to handle all forms of combined transport, will be in service. The full list will be as follows, those underlined being already in service:

Augsburg-Oberhausen, Basel Bad Bf, Bielefeld Ost Gbf, Braunschweig Hgbf, Bremen, Bochum-Langendreer, Düsseldorf-Bilk, Duisburg Hbf, Einsiedlerhof (bei Kaiserslautern), Fischbach-Weierbach, Frankfurt (M) Ost, Fulda Gbf, Giessen (Anschluss US Army Depot), Göppingen, Göttingen, Hagen Gbf, Hamburg-Wilhelmsburg, Hannover-Linden, Ingolstadt Nord, Karlsruhe Rbf, Kassel-Unterstadt, Köln Eifeltor, Kreutzal, Ludwigsburg (bei Stuttgart), Mannheim Rbf, München Hbf, Nürnberg Hgbf, Osnabrück Rbf, Regensburg Hbf, Saarbrücken Hgbf, Wetzlar, Wuppertal-Langerfeld und Würzburg.

Additional container terminals will be added by the end of 1969; plans are already being drawn up for 15 such places.

Orders were placed in 1968 for the first procurement quota for internal container traffic, comprising in all 650 containers of 20' and 40' length, and 600 specially designed wagons for carrying containers. Delivery will be completed by early 1969. In addition, it is planned to acquire containers of various types (closed and open containers with side-curtains or end-curtains or flaps, or with opening roofs, and so-called flats).

For internal container traffic, the German Federal railways have developed special containers, so as to be able to offer similar capacity to that offered by road transport. These containers deviate from ISO standard dimensions both in height and in width. The deciding factor in this choice was that the permissible width of road goods vehicles in EEC countries is 2.5 metres only. This width - with a corresponding inside width of 2.40 metres, also deviating from the ISO standard - alone enables the internal capacity to be fully utilised with European pool palettes, which, because of the shorter distances, and in view of the supply of special goods wagons, are much more often used in internal than in overseas trade. In spite of these special features, however, care has been taken to ensure that rail and road vehicles alike, and the transhipment apparatus as well, can be used both for ISO containers and for internal traffic containers.

The German Federal railways have so arranged their time-tables that as far as possible all containers can reach all destinations in Federal territory overnight. This meets the wishes of consignees, since it fits in with the flow of production and the firms' arrangements. Goods train operating schedules now contain 753 overnight container services and 182 local, overnight container services in the existing network of container transhipment points (including those which have only been provisionally equipped).

Both the Federal government and the Federal railways consider that internal container traffic has an important future, in conjunction with the favourable development which has already taken place in overseas container traffic, because of the great advantages which containers offer in economies in movement and packing, in avoidance of damage to goods, and above all, in the case of transhipment between modes of transport.

Appendix II

NOTE ON INTERCONTAINER

1) Intercontainer was founded in December 1967 as a co-operative company by the national railways of Great Britain, Belgium, Denmark, France, West Germany, Holland, Hungary, Italy, Spain, Sweden and Switzerland, together with the Interfrigo Company. Subsequently further national administrations joined Intercontainer, and there are now fifteen administrations participating. In due course Inter-container expect all European railways to join.

2) Intercontainer has come into being to deal with the handling of ISCO containers and other large containers (such as those of 8 ft. 6 ins. in height, or Sealand containers of 35 ft. length), which are increasingly arriving in Europe from overseas, and which are also increasingly being used for intra-European trade. These containers pose problems for railways, particularly where (as very frequently happens) they are to be carried on international routes. Put very briefly, Intercontainer's object is to facilitate and make more efficient and economic the handling of these large containers by European railways.

3) For many years there has been technical and operational co-operation between European railways. But joint action in the commercial field has been much more limited. The Interfrigo company, hitherto confined to the operational and technical development of a pool of insulated and refrigerated wagons, is beginning to develop commercial powers in the field of insulated and refrigerated containers, and is itself a founder-member of the Intercontainer company, whose legal structure is modelled on that of Interfrigo. However, Intercontainer is the first real form of commercial co-operation between railway administrations, and it has wide commercial powers.

4) Intercontainer basically looks only to international traffic; national administrations generally look after their own domestic traffic. The national railways, could, if they chose, ask Intercontainer, from time to time, to handle their domestic traffics, but up till now, none has done so.

5) Intercontainer's function is twofold; first, to act as agent, to enable consignors of large containers to have the benefits of rail transport as simply as possible. Intercontainer buys space on European trains wholesale, and sells it "at retail" to the various consignors. The difference between the wholesale price at which the company buys train-space from the railways and the price at which it retails it to consignors is the commercial margin at its disposal. This provides it with a measure of flexibility in price-formation. In effect, it overcomes a big weakness of the railways, which is a lack of suppleness, and enables railways to collaborate and to co-ordinate their handling of the growing international container business.

6) Intercontainer's second function, in the fields of investment and management, will be first, in the acquisition of special railway wagons, and subsequently in the formation of a pool of containers, in the same way as Interfrigo has done in respect of insulated and refrigerated wagons. Containers and wagons are expensive, and it is economically desirable to use them as intensively as possible; a pooling arrangement encourages this, by reducing empty return journeys. Moreover, a pooling arrangement means that, in total, less investment is required than would be the case if each national administration equipped itself on its own to meet the challenge of containers. It also ensures economic standardization of equipment.

7) Primarily, Intercontainer is a rail-based organisation. But some road haulage concerns are interested in associating themselves with the system, and this association could become closer in time. Intercontainer will also sell handling and collection and delivery operations, organised by the railways themselves, or by road haulage concerns under contract with

the railways, and operating through terminals run by the railway administration in whose country the terminals are sited.

8) Intercontainer is represented commercially in each country. This commercial representation takes various forms. Most frequently, it is under-taken by the railway administrations themselves, sometimes (as in France, Italy and Spain) by a specialised, railway-owned subsidiary, and in one case by a separate, nationalised forwarding agency.

9) By organising bulk transport of containers by rail, Intercontainer can enable the participating railways to secure the sort of economies already demonstrated by the freightliners running on British railways, and in consideration of this, the company obtains special rebates from the railways. Thus Intercontainer will be in a position to offer more attractive rates to customers than they could obtain for individual forwardings of trans-containers. Since, however, Intercontainer is, of course, a co-operative enterprise, the profits made will accrue back to the national railways in due course, whether by way of dividends declared, or by the build up of the container and wagon fleet. It is not Intercontainer' s intention to superimpose an expensive bureaucracy on railway operations; Intercontainer' s object is to carry out more economically work which anyway would have to be carried out in the various national railways.

10) At the moment services link Milan, Basle, Antwerp, Rotterdam, Cologne, Frankfurt, Hamburg, and, via British railways' cellular ships, most industrial centres in Great Britain. There is also a London/Paris service. However, this is only the beginning and Intercontainer expect to have by the end of 1969 a network of services covering some 120 centres in Europe, including the terminals in Great Britain. The Company' s intention is not, however, to expand its activities indiscriminately, but to establish new services selectively, where there are good expectations of traffic flows which will be viable. To this end, Intercontainer have commissioned an experienced firm of management consultants to carry out a large-scale review of developments and potential services. The current state of development is shown in detail in the attached tables: Table ' A' lists the international services of container trains in operation; Table ' B' lists European railway terminals for container traffic now in operation, under construction, or planned.

Table A. SUMMARY OF CONTAINER TRAINS SERVICES IN EUROPE, OCTOBER 1968

1. International services

At the moment 5 international container trains run on the Continent. 2 of them are "Intercontainer" trains, organised by and under the responsibility of "Intercontainer". The other 3 trains will be managed by our Company in a later phase of development; at present "Intercontainer" already uses these trains for its own transports, but they still run under the responsibility of the railways themselves.

Together with further container trains on different traffic relations the "Trans-Europe-Container-Express" system will be formed, consisting of special blocktrains for container transport, which can be compared to the BR' s Freightliner-system.

The existing special international container trains are:

1) Milan - Antwerp / Rotterdam via Basle; "Intercontainer" train, 3 times a week in both directions,

2) (Harwich -) Zeebrugge
   - Aachen (individual wagons for Germany and Austria forwarded by connecting "TEEM" trains)
   - Milan via Basle

   daily, except Sundays, in both directions,

3) London - Paris via Dover - Dunkirque
   daily, except Saturdays and Sundays, in both directions,

4) Zeebrugge - Antwerp - Rotterdam - Amsterdam
   daily, except Saturdays and Sundays, in both directions,

Table A (cont' d)

5) Amsterdam / Rotterdam - Frankfurt / Mannheim / Ludwigsburg (near Stuttgart) "Intercontainer" train, 3 times a week in both directions.

International container services by "Teem" trains:

1) Milan - Dunkirque via Modane

2) Amsterdam / Rotterdam - Kopenhagen via Bremen - Hamburg

2. National services

In Great Britain (BR):	the "Freightliner" system, covering England, Scotland and Wales with extensions to Northern Ireland and Eire.
In West Germany (DB):	Special container train: Hamburg / Bremen - Frankfurt / Mannheim / Ludwigsburg / Nuremberg / Munich, 5 days a week in both directions.
In East Germany (DR):	Special container train: Dresden - Berlin - Rostock twice a week Dresden - Berlin, once a week extension to Rostock.
In Sweden (SJ):	Stockholm - Gothenburg Stockholm - Malmo Malmo - Gothenburg special container trains, daily except Saturdays and Sundays in both directions.

Table B. TERMINALS OF THE EUROPEAN RAILWAYS IN OPERATION UNDER CONSTRUCTION OR PLANNED, AS AT 1st NOVEMBER, 1968

ADMINISTRATION	IN OPERATION ON 1st AUGUST, 1968	UNDER CONSTRUCTION OR PLANNED
B. R.	Aberdeen, Birmingham, Cardiff, Edinburgh, Glasgow, Harwich, Hull, Leeds, Liverpool (2), London (5), Manchester (2), Newcastle, Sheffield, Southampton, Stockton "Special purpose" - Terminals in: Heysham, Holyhead, Mayam, London (Park Royal), Par.	Birmingham, Bristol, Glasgow, London, Manchester, Nottingham, Swansea.
CFF	---	Bale-Wôlf/Basel-Wolf To come into operation 1968/ early 1969
D. B.	Basel Bad Bf. Bochum - Langendreer Einsiedlerhot Fischback - Weierbach Frankfurt (M) - Ost Giessen Ludwigsburg Mannheim Rbh München Hbh. Nürnberg Hgbf.	Augsburg, Bielefeld, Braunschweig, Bremen, Duisburg, Düsseldorf-Dilk, Einsiedlerhof, Fulda, Göppingen, Göttingen, Hagen, Hamburg-Wilhemsburg, Hannover - Linden, Ingolstadt, Kaiserslautern, Kassel-Understadt, Karlsruhe Rbf, Koln-Eifeltor, Kreutztal Lübeck, Neuwied, Osnabrück, Regensburg, Saarbrücken, Hgbf, Wetzlar, Wuppertal-Langer-feld, Würzburg

Table B (Cont' d)

ADMINISTRATION	IN OPERATION ON 1st AUGUST, 1968	UNDER CONSTRUCTION OR PLANNED
D.R.	Berlin, Dresden, Rostock-Ueberseehafen	Chemnitz (Karl-Marx-Stadt), Erfurt, Leipzig, Magdeburg, Cottbus, Frankfurt/O, Gera, Görlitz, Halle, Neubrandenburg, Rostock, Schwerin, Suhl, Zwickau
DSB	Esbjerg, Fredericia, Glostrup (Køben havn), Odense	Aarhus, Køben havn
F.S.	Milano	Napolik Firenze, Roma
MAV	---	Budapest
N.S.	Amsterdam, Rotterdam (port terminals shared with NS), Veendam.	Eindhoven
Oe.B.B.	Wien (Nord-West Bhf)	Graz, Innsbruck, Linz, Salzburg, Villach
RENFE	---	Barcelona, Cadiz, Cordoba, Madrid, Palencia, Valencia, Vitoria, Zaragoza
S.J.	Göteborg, Stockholm	Hälsingborg, Malmo, Norr-koping, Orebro, Sundsvall
SNCB	Zeebrugge, Anvers, Bruxelles	---
SNCF	---	To come into operation in 1968 Paris-Batignolles (Novembre/November), Paris-La Chapelle, Le Hâvre To come into operation in 1969 Dunkerque, Bordeaux, Dijon, Strasbourg, Marseille, Paris-Bercy, Toulouse, Reims, Lorient, Lyon, Paris-Bercy (2ème grue/2. Kran), Angers, Grenoble, Metz, Avignon, Macon, Paris-La Chapelle (2ème grue/2. Kran), Lille, Perpignan, Nantes, Mulhouse, Angoulème, Le Mans, Bayonne ou Hendaye, Rennes, Fos s/Mer, Clermont-Ferrand (1970)

1. Nothing is known of the intentions or possible plans of European railways not mentioned in this table.

   There are numerous goods depots where transcontainers can be transhipped by more or less sophisticated means. These depots are listed in the latest edition (October 1968) of the "Catalogue of Means of Transhipment and Terminal Services drawn up by Intercontainer".

REPORT OF THE COMMITTEE OF DEPUTIES ON PRESENT PROBLEMS CONCERNING LARGE CONTAINER TRANSPORT AND ROLL-ON/ROLL-OFF SERVICES

[CM(69)7(final)]

RESOLUTION CONCERNING CONTAINER TRANSPORT AND ROLL-ON/ROLL-OFF SERVICES

The Council of Ministers of Transport,

Meeting in Stockholm on 11th June, 1969

Having considered the attached report [CM(69)7] drawn up by the Committee of Deputies after having heard the views of the International Organisations concerned on the development trends of large container transport and roll-on/roll-off services, and on present problems concerning these forms of transport;

Noting with satisfaction the progress made in certain fields with a view to achieving an integrated transport system;

Thanks the International Organisations for their valuable and effective help and invites them to continue their close co-operation with the ECMT on matters concerning combined transport.

Being aware that after its swift development at inter-continental level, container transport will steadily expand within Europe, even within countries considered individually;

Deems it necessary that governements of all Member countries should, in particular:

- continue their efforts with a view to amplifying and standardizing their statistics for large container transport in accordance with the guidelines laid down by the United Nations Economic Commission for Europe, in order, inter alia, to facilitate the market research which seems essential for the growth of this system of transport on a rational basis;

- unfailingly support the action taken by the International Organisation for Standardization (ISO) and national standardization committees to determine and apply container standards, the general adoption of standardized containers being essential for the satisfactory development of integrated services;

- encourage the development of test and approval procedures unified according to internationally accepted standards and make such arrangements as may be required to ensure the mutual recognition, for international traffic purposes, of container approved in this way;

- strive to remove, at the earliest possible date, the administrative obstacles hampering the development of international container transport;

- keep close watch on the social problems which may arise as a consequence of the growth of container transport;

- support the efforts made to reduce, standardize and simplify the documents used for container transport;

- confront their policies with a view to harmonizing investments in container terminals;

- bear in mind the problems raised by investment finance for the development of containerisation.

A. SUMMARY

1. Foreword

At its 27th Session, the Council of Ministers instructed the Committee of Deputies to keep in touch with the international Organisations concerned and submit a further report on developments concerning container transport and roll-on/roll-off services.

In accordance with these instructions, on 15th January, 1969, the Group of

Rapporteurs appointed by the Committee of Deputies heard the views of the International Organisations on the economic, technical, social issues and on those concerning transport policy. It then analysed container and roll-on/roll-off transport problems in the light of this hearing and of the information provided by governments.

The International Organisations welcomed this opportunity thus given them by the ECMT of expressing their views and proposals.

The Maritime Transport Committee of the OECD and the Secretariat of the United Nations Economic Commission for Europe once again gave valuable help for the preparation of this report.

The ECMT takes this opportunity of thanking the International Organisations for their contribution.

2. Present position and future development

a) Container transport* went on expanding at a very fast rate in 1968. No excess of shipping capacity has yet appeared, but warnings of the risk of it have come from several quarters. The international Organisations nonetheless considered that government intervention is not called for.

b) Thanks to the steps taken by the United Nations Economic Commission for Europe, it will now be easier to keep in touch with container transport trends. It was well-nigh impossible to do this hitherto because statistics were not drawn up in 1968 so that comparable statistics on container traffic handled at seaports could be made available for the first time.

c) At the beginning of 1969, 20 full container ships amounting to a total capacity of 13,700 units of 20 feet were in commission on the North Atlantic routes. Substantial increases in capacity are foreseen in 1969-1970. Another 29 full container ships, together amounting to a total capacity of 23,500 units of 20 feet, are expected to come into commission on the North Atlantic. On the Australian routes, 14 full container ships with a total capacity for 17,500 units of 20 feet are to come into service before the end of 1970.

d) The number of roll-on/roll-off services has risen considerably, especially those operating to and from the United Kingdom. Ferrying of lorries and trailers between German ports and Scandinavia has also increased.

e) It must be pointed out that the existing figures for container traffic are not yet fully comparable because of differences in methods of data collection.

At Antwerp, 43,600 containers were handled during the first nine months of 1968 as compared with 39,100 during the same period of 1967.

In the Netherlands seaports, 207,000 containers (8ft. or more in length) were handled in 1968.

(data for the Netherlands are not yet available).

At Bremen, some 40,000 containers were handled in 1968 as compared with about 36,400 in 1967.

At Le Havre, container traffic, in terms of 20 feet units, rose from 12,200 in 1967 to 21,000 in 1968.

At Hamburg, 26,000 containers were handled in 1968 as compared with 10,200 in 1967.

At Göteborg, some 40,000 containers were handled in 1968.

f) With regard to container traffic to and from seaports, the D.B. (German railways) accounted for about 50% of the containers handled through German ports.

In France, the SNCF (French railways) took 88% of the trans-atlantic traffic handled through Le Havre.

In the Netherlands, the NS (Netherlands railways) accounted for 15% of container traffic in this category.

Road transport accounts for a very large share (about 85%) of container traffic between the Belgian and Netherlands seaports and their hinterland.

The growth of roll-on/roll-off services is also favourably affecting road transport.

The inland waterways' share of container traffic is at present very slight. Rhine shipping operators are, however, expecting to handle more of it and are already making preparatory organisational arrangements.

g) The statements made by certain governments show that their countries, Yugoslavia for instance, are still only very little involved in container traffic, but they

* For the purposes of this report, "containers" mean containers 20 feet (6,06) or more in length.

are studying this subject and watching developments in this field with close attention and are keenly interested in international co-operation, particularly with neighbouring countries.

It was also pointed out that in some countries, financial support was needed for the provision of facilities relating to large container transport.

Briefly, it is clear that everyone interested in an integrated transport system welcomes the fact that the ECMT is keeping the trend of container and roll-on/roll-off transport constantly under review with the help of concrete figures. This review, which should be a continuing process, will be improved as statistics become better standardized.

3. Standardization

a) In Resolution No. 19 (General Questions) the Council of Ministers of the ECMT, at its Dublin session on 12th June, 1968, asked all Member countries to support the ISO in its efforts to determine standards for containers and try to ensure that these standards were observed. However, the general adoption of ISO standards is not yet achieved and certain indications give reason to believe that there are wide deviations from them for sea and rail transport alike.

The International Organisations almost unanimously pointed out how the profitability and interchangeability of containers would be threatened if dimensional standards different from those of the ISO were adopted. A few organisations did however take a more lenient attitude to certain departures from ISO standards on economic or technological grounds provided that trans-shipment equipment remained compatible. It must be pointed out that containers with a width of 2.50 metres which are regarded in some quarters as suitable for European internal traffic, cannot be loaded on cellular ships, nor can they be used for traffic with the United Kingdom because of the different railway gauge in that country.

This is a most important problem and several members of the Group of Rapporteurs consider that the introduction of more and more variants of ISO standards might well break up container transport into separate compartments and so jeopardise door-to-door services throughout the world as well as the easy handling and interchangeability of containers. Standardization developments should therefore be kept very closely under review by the ECMT.

b) In the foregoing Resolution, the Council of Ministers also stressed the need for a uniform approval procedure, with a view to mutual recognition of tests performed by competent national institutions on the basis of internationally accepted standards concerning safety, Customs requirements, etc.

In France, a national mark certifying conformity to standard, known as the "Marque NF" has been introduced on the basis of ISO recommendations. In Germany, a Code of Practice for endorsement procedures of this kind is to be published in 1969 for the guidance of the "German Engineers Association" (VDI).

The main bodies tackling this problem at international level are IMCO and the United Nations Economic Commission for Europe.

4. Container pools

The international Organisations consider that the constitution of container pools is primarily a matter for private enterprise and that it is closely linked with the container standardization issue. Generally speaking, the International Organisations do not wish governments to intervene in the constitution of pools. Instances of co-operation between various undertakings involving one or more modes of transport are increasingly frequent.

In its contribution to the previous report of the Committee of Deputies, the Maritime Transport Committee of the OECD drew attention to the trend towards concentration in seaborne container transport. In its latest report, the OECD states that the économics of container transport could, in the long run, encourage concentration in the maritime transport sector rather than looser forms of co-operation between the firms concerned.

5. Social problems

Among the International Organisations concerned with container transport, the trade unions have gone carefully into its social implications. The present prospect is that containers, by rationalising handling operations, will reduce the manpower requirements in the docks. To some degree, this also applies to seafarers.

In particular, mechanisation and automation will strengthen the drift towards employment of skilled workers. In addition,

some activities previously handled at seaports may be shifted inland to a greater or lesser degree.

Governments should give careful consideration, in particular, to the problem of retraining the dock labour force.

Where landborne transport is concerned, big changes do not seem likely at present but it must be borne in mind that container transport has not yet developed on as big a scale on land as on sea, and in view of the expected growth of inland container traffic, social problems of still unforeseeable shape might arise.

The ECMT should continue to give attention to these matters in co-operation with the International Organisations concerned.

6. Tariff problems

In the opinion of the International Organisations, this is above all a matter for private enterprise. It would, however, be interesting to watch the development of the new rate structures which may be applied to container transport.

For inter-continental container traffic, as through rates match the principle of an integrated transport system they are likely to become increasingly common in future.

The European railways apply a "European wagon-load trans-container tariff" for international traffic. Special tariffs, agreed bilaterally, are also encountered.

The general tendency is to take no account of the nature of the goods carried in the container.

7. Container transport within Europe

European container transport is at present largely geared to maritime traffic. The first inland container transport system (i.e. Freightliners) was developed in the United Kingdom.

A few governments and railway administrations are at present considering the possibilities of developing container transport within Europe.

The ECMT should keep a very close watch on every aspect of developments in this field and should encourage this trend, particularly with regard to international traffic.

It is important that the policy adopted to develop container transport does not distort the terms of competition between different modes of transport.

8. Administrative problems

A note from the Secretariat of the United Nations Economic Commission for Europe gives information on the activities of the Inland Transport Committee. Resolutions on the use of foreign containers in internal traffic, in the approval of containers by design type for Customs purposes, and on the acceptance of sheeted containers for the transport of goods under Customs seal, were adopted in 1968 and accepted by many countries. The complex problem of the "container manifest" can be solved only in the light of practical experience; the ultimate aim is the adoption of a standard document suitable for transport, Customs and trade requirements. It is important that the United States should, in the meantime, become a party to Customs Convention on Containers and the TIR Convention.

9. Proposals submitted to governments by the International Organisations

The main proposals under this head are wider facilities concerning the use of imported containers for internal traffic, easier Customs formalities and the need for an internationally recognised procedure for the approval of containers, this last topic being closely bound up with standardization.

Most of the proposals put forward by the International Organisations are already receiving the attention of governments, in particular within the United Nations Economic Commission for Europe. In certain fields, partial solutions have been found which go some way towards meeting the International Organisations' views.

TERMS OF REFERENCE

The Council of Ministers instructs the Committee of Deputies:

- to watch the development of containerisation for all modes of transport, with special reference to container transport within Europe and roll-on/roll-off services;

- to continue to investigate problems relating to transport technology, economics and policy in consultation with the International Organisations.

- to undertake a complete study of the problems concerning the policy to adopt with regard to combined transport with due regard to the Report on the Effects of Containerisation on the Railways;

- to submit to the Council of Ministers, in June 1970, or not later than December 1970, a report on the main developments concerning container transport and roll-on/roll-off services, in particular with regard to the various modes of transport within Europe itself.

B. DETAILED REPORT

I. FOREWORD

1. At its 27th session, held in Dublin on 12th June, 1968, the Council of Ministers approved a Report [CM(68)5] and adopted a Resolution on large container transport and roll-on/roll-off services. At the same time, it instructed the Committee of Deputies:

- "to keep under review the development of large container transport and roll-on/roll-off services, and to study, in joint agreement with the ISO, the dimensions that should be specified to ensure proper transport co-ordination;
- to remain in contact with the International Organisations concerned in order to ascertain the measures that these Organisations judge necessary to solve the technical economic, social and transport policy problems which may arise;
- to draw the essential conclusions from this information and study any new problems that may be encountered;
- tc submit at the session to be held in June 1969, or, at the latest, in December 1969, a further report on the latest developments and progress".

2. In compliance with these terms of reference, the Group of Rapporteurs appointed by the Committee of Deputies :

a) heard the views of the International Organisations on the following points:

1. Present position with regard to large container traffic and roll-on/roll-off services and an appraisal of its future development.
2. Problems of standardization (see Council Resolution of 12th June, 1968) :
   a) dimensions,
   b) technical conditions,
   c) safety,
   d) import procedure.
3. Problems concerning the formation of "pools" or other forms of co-operation.
4. Social problems :
   a) social effects of new techniques,
   b) working conditions and safety.
5. Tariff problems.
6. Possibility of action with regard to development of large container traffic in Europe.
7. International Organisations' proposals for inter-Government intervention with indications of their priority.

b) discussed and analysed the problems of large container transport and roll-on/roll-off services, with due regard to the views expressed at the hearing of the International Organisations and of the statements communicated by governments;

c) drew up this report, which gives special attention to the development of container transport and roll-on/roll-off services in 1968 and to the outlook for the coming years.

3. The following took part in the proceedings of the Group of Rapporteurs: Delegates of the Federal Republic of Germany (Chairman), Belgium, France, Luxembourg, the Netherlands, the United Kingdom, Sweden, and Yugoslavia. Representatives of the Secretariat of the Maritime Transport Committee of the OECD, the Secretariat of the United Nations Economic Commission for Europe and an Observer from the EEC Commission.

The detailed information provided by the Maritime Transport Committee of the OECD and by the Secretariat of the United Nations Economic Commission for Europe was a most useful contribution to the drafting of this report.

4. The following International Organisations representing transport operators, users and workers, attended the "hearing" held on 15th January, 1969, in Paris :
- International Union of Railways (U.I.C),

- International Road Transport Union (IRU),
- International Federation of Forwarding Agents Organisations (FIATA)
- Institute of Transport Aviation (ITA),
- International Chamber of Commerce (ICC),
- Council of European Industrial Federations,
- International Containers Bureau (BIC),
- International Chamber of Shipping (ICS),
- International Standards Organisation (ISO),
- International Transport Workers Federation (ITF),
- World Confederation of Labour (WCL).

The International Union of Inland Waterways (UINF) had been invited but was not represented.

5. The International Organisations unanimously welcomed this opportunity to give their views on container transport and roll-on/roll-off services, and that in this way they might help to solve the problems arising from the development of these techniques. The ECMT thanks all the International Organisations concerned for their valuable contributions.

II. PRESENT POSITION WITH REGARD TO LARGE CONTAINER TRAFFIC* AND ROLL-ON/ROLL-OFF SERVICES AND APPRAISAL OF ITS FUTURE DEVELOPMENT.

1. General

1. Since the last report by the Committee of Deputies to the Council of Ministers on 9th May, 1968, container transport has developed fast. The first experimental stage is now over but the running-in period not yet completed. Overcapacity in the container transport sector, as originally feared in many quarters, has not yet materialised. However, the Maritime Transport Committee of the OECD considers that, given foreseeable container transport capacity and cargoes on the North Atlantic, there could be some excess capacity, at least during a period of transition. This Committee also states that though the development of container transport on certain main routes seems irreversible, conventional services will not disappear altogether because not all liner cargo can be unitised. Warnings against the risk of over-capacity are also mentioned in other reports.

The International Organisations representing transport operators and users do nonetheless unanimously agree that government intervention is not needed for the organisation of the market. In their view, the best safeguard against overcapacity is a strict regard for the profitability criteria of private investment. However, a better overall picture and better forecasts of container transport development trends seem to them necessary for rational decisions on the profitability of investments. They therefore welcome the steps taken by the ECMT to study at international level the problems that this new transport technique involves.

2. Internationally comparable statistics for container transport and for container traffic handled at seaports are of vital importance for evaluating future development trends. Comparisons are indeed at present hampered by the lack of uniformity in methods of evaluation. The transports statistics programme of the United Nations Economic Commission for Europe now covers movements of large containers (i.e. those with a length of 20 ft. (6m) or more) through seaports. Standard questionnaires were issued in 1968 and the ECE 1968 yearbook will thus contain comparable statistics on this subject for the first time. It would clearly be useful, however, if uniform statistics for inland container transport could also be drawn up in the near future.

3. The statements made by certain governments show that their countries, Yugoslavia for instance, still take little or no share in container traffic. They are, however, engaged in studies and watching developments in this field with close attention, and are therefore keenly interested in international co-operation, particularly with neighbouring countries.

It was also pointed out that in some countries, financial support was needed for the provision of facilities relating to large container transport.

2. Seaborne container transport

a) Deep-sea

1. The information provided by the Maritime Transport Committee of the

* For the purposes of this report, large containers means containers not less than 20 ft. (6, 06) in length.

OECD showed that deep-sea container shipping is at present in a period of development and change. Large investments have already been made or committed and it appears that the gradual change-over from conventional to containerised services on certain major routes is well under way and irreversible. Especially on the north Atlantic routes, a variety of different forms of container transport is offered, i.e. by conventional liner vessels, by more or less modified or converted part-container ships, by bulk carriers, by converted full container ships and by the purpose-built vessels, which are either cellular full container ships or multi-purpose vessels with roll-on/roll-off facilities.

FULL CONTAINER SHIPS AT THE BEGINNING OF 1969

NORTH ATLANTIC ROUTES

SHIPPING LINE	NUMBER OF VESSELS	TOTAL CAPACITY (20 ft. CONTAINER UNITS)
Atlantic-Container-Line[1]	4	2,000
Hapag-Lloyd-Container Lines	4	3,000
United States Lines	3	3,600
Sea Land Inc.	5	1,800
Container Marine Lines	3	2,800
Manchester Liners	1	500
Total	20	13,700

1. Container ships with roll-on/roll-off facilities.

The table in Annex 1 gives details of types of vessels, ports served, etc.

FULL CONTAINER SHIPS TO BE PUT INTO SERVICE IN 1969-1970

NORTH ATLANTIC AND AUSTRALIAN ROUTES

SHIPPING LINE	NUMBER OF VESSELS	YEAR	TOTAL CAPACITY (20 ft. CONTAINER UNITS)
North Atlantic routes			
Atlantic Container Line[1]	6	1969-70	3,500
Canadian Pacific	3	1970	2,100
Compagnie Maritime Belge The Bristol City Line Clark Traffic Services	3	1970	4,500
Container Marine Lines	2	early 1969	1,500
Manchester Lines	2	1969	1,000
Moore - McCormack Inc.	4	1969	3,300
Nordstjernan (Johnson-Line)[2]	6	1969-70	4,000
United States Lines	3	early 1969	3,600

1. Container ships with roll-on/roll-off facilities.
2. North West Europe - American West Coast route.

SHIPPING LINE	NUMBER OF VESSELS	YEAR	TOTAL CAPACITY (20 ft. CONTAINER UNITS)
Associated Container Transportation	3	1969	3,600
Overseas Container Ltd.	6	1969	7,800
Vereenigde Nederlandsche Scheepvaartmaatschappy Hapag/Lloyd Compagnie des Messageries Maritimes	5	1970	6,100
	43		41,000

The Maritime Transport Committee of the OECD estimated that world-wide capacity for container ships of all types in service at the end of 1968 was about 70,000 units of 20 feet.

Services between the United States and Hawaii and the Far East together with American coastal or intra-regional services accounted for about half this capacity.

2. Substantial increases in capacity are announced for the near future.

The Maritime Transport Committee of the OECD estimates that overall capacity for container ships of all types in service at the end of 1969 will be in the region of 100,000 units of 20 feet.

3. One of the biggest container ventures will be the service between the United Kingdom and Australia which started in March 1969. When all nine vessels of the two consortia (Overseas Container Limited and Associated Container Transportation) come into service, they will be able to offer weekly sailings and a container capacity of 1,100 - 1,300 standard units per week. It has been reported that the vessels being built for "Associated Container Transportation" and "Overseas Containers Limited" are expected to reduce overall transit time (inland point to inland point) between Europe and Australia by up to three weeks, while cutting time in port from 56 to 12.5% of the voyage time.

4. At the end of 1969, the first container-barge carrier (based on the Lash, i.e. "lighter aboard ship" system) will come into service. The barges can carry either containers or other cargo and the carrier vessel itself can carry barges or containers. Carrier vessels will probably call at ports equipped with transhipping facilities and will not load or unload outside the ports as previously supposed. Meanwhile, 16 ships of this type have been ordered, as shown in the table below :

COMPANY	NUMBER OF VESSELS	DELIVERY OF FIRST VESSEL	d.w.t.	NUMBER OF BARGES CARRIED ON EACH VESSEL
Mosvold Rederi	2	1969	43,000	73
Prudential Lines	5	1970	18,850	61
Pacific Far East Lines .	6	1970	18,850	61
Lykes Lines	3	1971	27,000	38

According to present information, five of these ships will be in operation between United States ports and the Antwerp-Hamburg range.

5. To appraise the medium-term development prospects of inter-continental container transport, it is essential to assess the volume of containerisable traffic. Forecasts have been drawn up for New York Authority*. In 1964, the Port of New York Authority considered that about 75% of the general cargo consigned from New York was economically containerisable. Given a 22% increase in traffic by 1975 and taking into account an increase in military transport, concentration of traffic at New York and new traffic generated by containerisation, the Authority's forecast is that 50% of general cargo consignments in 1975 will be containerised, i.e., 8.8 million long tons per year.

In the Federal Republic of Germany, the Scientific Advisory Board of the Ministry of Transport has drawn up container traffic forecasts for the period 1975-1980**. Where the Federal Republic is concerned, the forecasts for containerisable cargoes (including coastal shipping) fall within a bracket ranging from 15 million to 20 million tons a year.

b) Short sea and coastal operations

The main areas of port, sea and coastal container operations are at present :

- United States and Canadian coastwise;
- United States - Caribbean;
- United Kingdom - Ireland;
- United Kingdom - Continent/Scandinavia.

In addition some of the most recent services and projects concern Mediterranean routes and routes between North-West Continental ports and Scandinavia. However, the genuine short-sea trades in Europe hardly resemble the American coastal or intra-regional services. In particular, the vessels on the European routes are generally much smaller. Two of the largest full container vessels which operate in Europe, at present, are 3,300 d.w.t. ships of the British Railways Board which carry 148 containers of 30 feet (220 standard units). Considering, however, the very short sea distances involves (Harwich-Zeebrugge = 85 miles) the weekly carrying capacity of such a vessel exceeds 1,000 units in each direction (on a normal North Atlantic route three large container vessels would be required for the same transport volume and on the United Kingdom - Australia route nine vessels of 25,000-29,000 d.w.t. are required for a similar volume).

Many of the European short-sea routes are served by multipurpose vessels, many of which have roll-on/roll-off installations which permit the transport of containers on chassis, of cars, trailers, and of other forms of unitised cargo, e.g. pallets or flats.

3. Roll-on/roll-off services

1. Full container services, whether on short-sea or deep-sea, always require a regular and fairly large flow of goods. The roll-on/roll-off ferries which take any type of truck or trailer-tractor combination may be more expensive on a ton-mile basis, but offer the advantage of flexibility. The number of roll-on/roll-off services to and from Great Britain has increased considerably. These services are listed in Annex II.

2. A further increase is recorded for lorries and trailers carried by roll-on/roll-off ferry services between German ports and Finland, Sweden, Norway, Denmark and Great Britain.

3. Roll-on/Roll-off traffic through British ports has also increased. According to "Port Unit Transport Statistics Great Britain 1968", published by the National Ports Council, it amounted to 2,222,000 tons in 1967 as compared with 2,020,000 in 1966, (no figures are given beyond 1967).

As roll-on/roll-off services with Ireland came into service only at the end of 1967, an even sharper increase can be expected for 1968.

* Container shipping: Full Ahead; published by Port of New York Authority, New York, May 1967.

** Schriftenreihe des Wissenschaftlichen Beirats beim Bundesverkehrsministerium, Helf 13, Containerverkehr, Hof 1968.

ROLL-ON/ROLL-OFF SERVICES BASED ON GERMAN BALTIC PORTS

ROUTE (COMPANY SHOWN IN BRACKETS)	LORRIES AND TRAILERS CARRIED			
	LORRIES ONLY		LORRIES AND TRAILERS	
	1968	1967	1968	1967
Vogelfluglinie (DB/DSB) ...	21,589	20,885	33,819	33,937
Travemünde-Gedser (Moltzau-Linie)	18,005	16,269		
Travemünde-Copenhague-Hälsingborg (Trave-Linie)	17,055	14,273		
Travemünde-Copenhague-Helsinki (Finska)	575	142	96,044	78,808
Travemünde-Trelleborg-Malmö (SJ)	7,888	3,012		
Travemünde-Trelleborg-(TT-Linie)	14,447	13,598		
Lübeck-(Copenhague)-Helsinki (Finnlines)	910	1,419		
Kiel - Oslo (Jahre-Linie) ..	2,989	2,091		
Kiel - Göteborg (Stena-Linie)	1,294	453	9,674	5,966
Kiel - Bagenkop (Kiel-Langeland-Linie)	357	456		

4. Roll-on/roll-off traffic through Netherlands ports has increased considerably, as shown in the table below :

JANUARY-JUNE	INWARD (TONS)	OUTWARD (TONS)
1967	151,000	154,000
1968	255,000	240,000

5. In France too, roll-on/roll-off traffic is rising steadily. The trend is shown in the following table which covers traffic through Le Havre only:

	INWARD (TONS)	OUTWARD (TONS)	TOTAL (TONS)
1966 ...	84,800	78,500	163,300
1967 ...	93,300	113,600	206,900
1968 ...	207,300 (including cars)	228,800	436,100

4. Air container traffic

1. According to the information provided by the Institute of Transport Aviation, containers can at present be carried only on one type of aircraft, i.e. the Lockheed L 100 (derived from a four-engined turbo-jet military version, i.e. the C. 130 "Hercules") which is used by several airlines.

2. However, the 300-ton four-engined jet "era" will soon begin. The freighter versions of the Boeing 747, which is expected to come into service at the end of 1970, and of the Lockeed C. 54 (which flew for the first time on 30th June last and the civil version of which (L 500) could be in service round about 1974) can both take containers of any length and many airlines regard containers as the normal adjunct of new-generation freighters.

However, it must be borne in mind that existing four-engined jets - Boeing 707, 320 C and Douglas DC-8 F - will remain in service for at least a good ten years and that the palletising of aircraft cargoes will therefore continue.

3. For the Federal Republic of Germany, a forecast of air container transport is contained in the survey carried out by the Scientific Advisory Council of the Federal Ministry of Transport. The figures for international traffic are approximately 0.4 million tons in 1975 and from 1 to 1.1 million tons in 1980.

5. Seaports

Containers handled*

1. It is clear that all the main seaports of North-Western Europe have a share in inter-continental container traffic and that such traffic has everywhere increased as compared with last year. The capacity of transhipping facilities (which have involved considerable capital outlays) is not yet fully employed, but with the steady increase in traffic a better utilisation factor can be expected in future. There is nothing to confirm the often expressed belief that traffic would be concentrated on one or a few European ports.

2. The figures for container traffic in German seaports during the past year, as compared to 1967 are as follows:

CONTAINERS HANDLED
IN GERMAN SEAPORTS

(Containers at least 20 feet long)

	1968	1967
Hamburg	26,600	10,200
Bremen/ Bremerhaven .	40,000 (estimate)	36,400
Lübeck	3,800	2,700
(round figures) ..	70,400	49,300

Few containers were handled in other German seaports. The number of units handled was 40% up on last year. Only estimates are available for the "volume" of this traffic, but they suggest that the gross weight of containers handled increased by the same percentage.

Empty units accounted for about 20% of the total number of containers handled.

3. The National Ports Council report on "Port Unit Transport Statistics Great Britain 1968" gives the figures for container traffic in British ports in 1967. Goods carried on Lancashire flats ** and in containers (of over 8 cubic metres) rose from 2,518 million tons in 1966 to 3,805 million tons in 1967. During that year, 305,679 containers were carried in foreign traffic, including 123,261 for traffic with the Irish Republic. The average cargo per 20 ft. container was 11.11 tons for imports and 9.14 tons for exports, the rated load (net) being 17.85 tons.

4. The following tables outline container traffic (units 8 feet or more in length) handled at Netherlands seaports in 1968. The figures are broken down according to main areas of consignment and destination and those for Rotterdam are shown separately.

Analysis of these statistics has shown that European services account for most of the traffic handled in the smaller type of container (under 20 feet). Most containers of 20 feet or more are carried to or from North America.

5. A substantial increase in container traffic was also recorded at Antwerp. In the first nine months of 1968, 446,000 tons in 43,600 containers were handled at this port as compared with 328,500 tons and 39,100 containers for the same period of 1967.

As in 1967, loadings in 1968 showed the biggest increase. For the first nine months of 1968 as compared with the corresponding period of 1967, they increased by 45% as compared with 29% for unloadings.

Hence, loadings and unloadings of containerised goods are moving more closely into balance. The following figures show the gradual progress in this direction.

In tons

	UN-LOADINGS	LOADINGS	TOTAL
9 months 1966	136,000	65,000	201,000
9 months 1967	190,000	138,000	328,000
9 months 1968	246,000	200,000	446,000

* Methods of collecting data are not quite the same and figures for different ports are therefore not entirely comparable.

** "Lancashire flats are platforms, most commonly 24 feet long and 8 feet wide, usually with a head board, on which goods are stacked and secured, usually by roping and sheeting. These flats can be secured to road vehicles and are usually lifted by slings from points in board from the ends, to minimise bending".

CONTAINERS[1] RECEIVED AND CONSIGNED IN OCEAN-GOING VESSELS AT NETHERLANDS SEAPORTS SUB-DIVIDED ACCORDING TO GROUPS OF PORTS (LOADED AND EMPTY UNITS)

January-December 1968

	TOTAL NUMBER OF CONTAINERS	LOADED CONTAINERS			EMPTY UNITS	
		NUMBER	LOAD (TONS)	AVERAGE LOAD PER CONTAINER (TONS)	NUMBER	PERCENTAGE OF TOTAL
Containers received (total)	109,189	84,842	712,489	8.4	24,347	22
Europe	70,734	47,661	266,231	5.6	23,073	33
of which:						
- North Sea ports	69,252	46,909	262,729	5.6	22,343	32
- Atlantic ports of Great Britain	764	381	2,423	6.4	383	50
- Ports of the Gulf of Finland	265	222	635	2.9	43	16
North America	37,614	36,627	439,219	12.0	987	3
of which:						
- Atlantic ports	35,663	35,033	428,081	12.2	630	2
- Ports of the Gulf of Mexico	553	541	6,114	11.3	12	2
- Pacific ports	729	667	2,647	4.0	62	9
Other areas	841	554	7,039	12.7	287	34
Containers consigned (total)	97,875	75,318	703,966	9.3	22,557	23
Europe	76,511	55,977	443,442	7.9	20,534	27
of which:						
- North Sea ports	75,567	55,320	434,626	7.9	20,247	27
- Atlantic ports of Great Britain	350	299	3,423	11.4	51	15
North America	19,761	17,993	243,503	13.5	1,768	9
of which:						
- Atlantic ports	19,127	17,381	240,093	13.8	1,746	9
Other areas	1,603	1,348	17,021	12,6	255	16

1. 8 feet or more in length.

CONTAINERS[1] RECEIVED AND CONSIGNED IN OCEAN-GOING VESSELS AT ROTTERDAM, SUB-DIVIDED ACCORDING TO GROUPS OF PORTS (LOADED AND EMPTY UNITS)

January-December 1968

	TOTAL NUMBER OF CONTAINERS	LOADED CONTAINERS			EMPTY UNITS	
		NUMBER	LOAD (TONS)	AVERAGE LOAD PER CONTAINERS	NUMBER	PERCENTAGE OF TOTAL
Containers received (total)	63,427	52,999	593,864	11.2	10,428	16
Europe	30,424	21,107	208,246	9.9	9,317	31
of which:						
- North Sea ports	28,977	20,368	204,654	9.9	8,609	30
- Atlantic ports of Great Britain	753	378	2,421	6.4	375	50
- Ports of the Gulf of Finland	265	222	635	2.9	43	16
North America	32,210	31,381	380,611	12.1	829	3
of which						
- Atlantic ports	30,275	29,795	368,117	12.1	480	2
- Ports of the Gulf of Mexico	553	541	6,111	11.3	12	2
- Pacific ports	721	659	2,597	3.9	62	8
Other areas	793	511	5,007	9.8	282	36
Containers consigned (total)	50,586	45,729	544,077	11.9	4,857	10
Europe	34,192	30,784	345,674	11.2	3,408	10
of which:						
- North Sea ports	33,248	30,127	340,825	11.3	3,121	9
- Atlantic ports of Great Britain	350	299	3,401	11.4	51	15
North America	15,191	13,911	187,832	13.5	1,280	8
of which:						
- Atlantic ports	14,822	13,564	185,236	13,7	1,258	8
Other areas	1,203	1,034	10,571	10,2	169	14

1. 8 feet or more in length.

CONTAINER TRAFFIC AT ANTWERP[1]

1966-1967-1968 (nine months)

	UNLOADED		LOADED		TOTAL	
	NUMBER	'000 kg	NUMBER	'000 kg	NUMBER	'000 kg
	TOTAL					
Year 1966	29,121	197,524	14,699	98,440	43,820	295,964
Year 1967	33,208	267,907	23,812	213,416	57,020	481,323
9 months 1966 ...	20,772	136,006	10,323	64,783	31,095	200,789
9 months 1967 ...	23,340	190,408	15,779	138,158	39,119	328,566
9 months 1968 ...	24,749	246,114	18,856	200,272	43,605	446,386
UNITED STATES AND CANADA						
Year 1966	15,018	79,023	5,545	34,203	20,563	113,226
Year 1967	20,017	176,119	12,192	132,273	32,209	308,392
9 months 1966 ...	10,603	49,675	3,676	17,834	14,279	67,509
9 months 1967 ...	14,232	125,112	8,221	88,877	22,453	213,989
9 months 1968 ...	16,024	174,938	10,487	133,628	26,511	308,566

1. Including containers less than 20 feet long.

In the first nine months of 1968, 309,000 tons of container traffic to and from the United States and Canada were handled at Antwerp. This was equivalent to the overall figure for 1967.

Compared with the corresponding figures for 1967, the increase in traffic with the United States and Canada handled at Antwerp was 50% for loadings and 40% for unloadings, 44% for the two combined. Container traffic on the North American route is therefore rising faster than the overall figure for all container traffic. Thus, in the first five months of 1968, traffic with the United States and Canada accounted for 69% of all container traffic (67% for loadings and 71% for unloadings).

6. In France, container traffic at Le Havre (which accounts for 93% of all traffic carried in containers from 20 feet upwards at French ports) is rising sharply, as shown in the table below :

	INWARD		OUTWARD		TOTAL	
	NUMBER OF CONTAINERS	TONS	NUMBER OF CONTAINERS	TONS	NUMBER OF CONTAINERS	TONS
1967	5,000[1]	42,000[1]	4,900[1]	58,000[1]	9,900[1]	101,000[1]
1968	8,321	70,687	9,279	105,452	17,600	176,139

1. Estimate. The statistics available do not allow a clear distinction between large container traffic and traffic carried in small containers and frames.

7. In Spain, container transport and roll-on/roll-off services are still in their early stages. The only ports for which sizeable figures are recorded are Barcelona (1,000-1,100 units per month), Bilbao (350 units per month) and Valencia (30 units per month). An increase of 25% a year is forecast. Plans have been drawn up for special facilities at Cadiz and for a modern container terminal with a capacity of up to 8 million tons per year. Financing machinery has been recently established and it is hoped that work on infrastructures will begin shortly.

8. In Portugal, a monthly average of 285 containers (of which 30% are bulk liquid containers) is recorded at the ports of Douro and Leixoes. From May to November last, the average recorded at Lisbon was 130 large containers (20 feet units) and 91 containers under 20 feet.

In both cases the authorities expect a sharp increase in this type of traffic. At Lisbon it is expected to attain a yearly average of 10,000 large containers in the near future.

9. In Italy, container traffic handled at the port of Genoa during the first six months of the year was as follows:

Containers unloaded:	first six months of 1968:	1,450 units with 14,900 tons of goods
	first six months of 1967:	723 units with 7,490 tons of goods
Containers loaded:	first six months of 1968:	3,020 units with 29,650 tons of goods
	first six months of 1967:	990 units with 9,580 tons of goods

As the service operated by American Export Isbrandtsen lines did not begin until 1968, the figures for the first half of 1967 cover traffic with Sardinia only.

10. In Sweden, container transport increased in 1968. Most of this traffic went to the port of Göteborg, where a new container terminal was opened in September 1967. The following figures are given for the last three months of 1967, the corresponding period of 1968 and the whole of 1968 (containers of 10 feet and over).

PORT OF GÖTEBORG

	1967 OCTOBER-DECEMBER	1968 OCTOBER-DECEMBER	1968
Loaded ..	3,475	5,197	20,461
Unloaded..	3,770	5,177	19,655
Total handled .	7,245	10,374	40,116

Future extension of this traffic to the port of Stockholm has made it necessary to expand container handling facilities at this point, and a container terminal is therefore being built. The same applies to the port of Helsingborg.

6. Inland transport of containers handled through sea-ports

a) Rail

1. In Germany, the share of container traffic to and from German seaports accounted for by the German Federal Railways (DB) in 1968 was as follows:

	1967 (NUMBER)	1968 (NUMBER)
Containers (20 to 40 feet in length) Loaded and empty units combined	12,760	estimate: approxi. 37,000
i.e. 30.4% of total container traffic handled at German seaports	30.4%	51% approxi.

If inward and outward flows of container traffic accross land frontiers are added, the overall figures for the DB are as follows:

	1967 (NUMBER)	1968 (NUMBER)
Containers (20 to 40 feet in length) Loaded and empty units combined	17,355	estimate: approxi. 62,000

In anticipation of an equally favourable trend for container traffic in future, the DB have taken the following steps:

In 1968, orders were placed for 600 new container-carrier wagons (2-axle and 4-axle units) equipped with stock absorbers. The wagon fleet for this category will thus amount to 800 units.

It would normally be desirable to try to solve the problem of terminal haulage in close co-operation with the road transport industry. The DB have only a limited number of tractor and trailer vehicles for container transport.

The construction of a network of large container terminals equipped with rail-borne electric gantry cranes is planned. The first stage of the programme covers 33 container terminals.

By the end of 1968, 17 of these terminals were in service and the others are to be completed in 1969. The need for other terminals of this kind will depend on the development of container traffic.

2. The United Kingdom, the freightliners service, formerly part of British Rail, came under the newly formed National Freight Corporation on 1st January, 1969. The service continues to expand, and the number of containers carried each week had by the end of 1968 passed the 7,000 mark (compared with 5,000 in 1967). By January 1969, there were 45 freightliner services in all, and, concurrently with work in hand for the provision of new or expanded terminals, it is planned to bring the total of services to over 70, including maritime services.

Existing and planned freightliner terminals are listed in Annex III.

3. In France, the SNCF has taken a leading role in the inland transport of seaborne containers, and 88% of cross-atlantic traffic through Le Havre is at present carried by rail.

The present estimate of containerisable domestic rail traffic is at least 20 million tons and, as a medium-term forecast, roughly another 10 million tons may be added as the railborne share of the overall increase in traffic tonnage.

A few years hence, seaborne containers are therefore likely to account for only a small share (less than one-tenth before ten years time) of internal container traffic carried by rail.

The C.N.C. (a subsidiary of the SNCF) is to increase its stock of 20 foot containers from 500 to 1,550 by the end of 1969.

Rolling stock: the SNCF has so far adopted two types of 60 foot bogie wagons designed for speeds of up to 120 km per hour:

- one for unit-trains (200 wagons to be delivered before April 1969);
- the other (equipped with a shock-absorber device) for traffic that may be handled through marshling yards. Fifty wagons of this type have been ordered.

As regards lifting equipment, attention has been centered on a fast and sturdy multipurpose portal of which there are three versions corresponding to spans of 8, 12 and 18 m. This latter model - the most common - staddles two road traffic lanes and two rail tracks.

This type of portal can also be used for lifting 32-ton semi-trailers by means of a grab. Twenty terminals will be equipped with this type of portal between December 1968 and 1969, and eight others during the second half of 1969.

At other terminals, pending the gradual installation of modern portals if the volume of traffic justifies it - existing gear with spreaders for the lifting of 20 foot containers will be kept in service, notwithstanding the use restrictions this implies.

4. In Sweden, the State Railways (SJ) have been operating regular container services between Stockholm and Göteborg, and also on a smaller scale to Malmö, since the beginning of 1968. This traffic is expected to increase and container handling facilities will also be provided in three other Swedish cities.

The following are the figures for traffic between Stockholm and Göteborg in 1968:

Containers/flats

Number of units:

Stockholm-Göteborg :	3,314
Göteborg-Stockholm :	3,710

Transport of semi-trailers by rail is also increasing.

Recently the Swedish State Railways and the Atlantic Container Line entered into an agreement whereby the State Railways undertook to act as agents for ACL at 15 specially designated inland railway stations for the transport of goods to the

east coast of the United States. This means that the State Railways, when accepting goods for transport by rail, will issue all necessary documents, including those for the sea leg of the voyage, at these 15 stations. The ACL on the other hand arranges for groupage in Göteborg if needed and for onward transport to the United States by sea. Onward transport in the United States of America can be arranged by ACL through agreements with local carriers.

5. In the Grand Duchy of Luxembourg, no large container traffic to and from Luxembourg rail terminals is yet in existence, but some consignments have been made on a trial basis.

The Luxembourg Station is equipped to operate as a container terminal.

The Luxembourg Railways also handle a sizeable amount of large container traffic in transit on routes running North-South and vice versa.

6. In Denmark, container traffic handled by the Danish State Railways developed as follows:

November 1967 ..... 207 containers

November 1968 ..... 734 containers

Container traffic is expected to go on expanding in pace with the provision of better corresponding technical facilities, more particularly modern container terminals.

b) Road

Road haulage again accounted for a substantial share of container traffic to and from ports at the mouth of the Rhine. The road-hauled share of traffic moving from Netherlands and Belgian ports was in the region of 85%. In 1968, some 50,000 containers (i.e. units of 20 feet and upwards) were carried by German-Netherlands road transport services. Road hauliers took 50% (yearly average 1968) of the traffic to and from German seaports.

c) Inland waterways

The share of container traffic handled by European inland waterways is very slight. Five hundred containers were carried on the Rhine in 1968, most of them for Basle. Nearly all the large inland ports on the Rhine are equipped with transhipping facilities, but special gantry cranes for lifting containers are lacking. There are several reasons for the minor role of the inland waterways in this field:

i) Container traffic flows are not yet sufficiently large and dense for inland waterway transport to become involved.

ii) The freight rate incentive that inland waterway transport can offer for single containers is not substantial.

iii) The shipping lines insist upon a fast transhipment in both directions.

iv) Some seaports are not yet equipped with facilities for direct transhipment from inland waterway craft. This situation may be changed when the first container-barge carrier based on the LASH system comes into service at the end of 1969.

The importance that Rhine shipping circles attach to container traffic is shown by the fact that 13 large waterway shipping companies in the four countries bordering the Rhine and Belgium have been operating a "Rhine container service" since 1st February, 1969. These companies together control over 1,000 craft.

III. PROBLEM OF STANDARDIZATION

1. Foreword

At its meeting in Dublin on 12th June, 1968, the Council of Ministers, in its Resolution concerning large container transport and roll-on/roll-off services, asked all Member countries to support the ISO in its efforts to determine standards for containers and use their influence for the achievement of a uniform approval procedure, recognised by all participants in the integrated transport system, and valid regardless of international frontiers.

The main positive developments concern the approval procedure. They are dealt with at a greater length under paragraph 3 below.

As regards the standardization of containers, the general adoption of ISO standards is not yet assured and certain indications give reason to believe that there are wide deviations from them for sea and rail transport alike.

The International Organisations almost unanimously drew attention to the risks involved in departing from the dimensional

standards adopted by the ISO. Some delegations also consider that the introduction of more and more variants of ISO standards might well break up container transport into separate compartments and so jeopardise door-to-door services throughout the world, as well as the easy handling and interchangeability which would yield a better economic return. Some organisations such as the UIC, IRU and ITA did, however, show some understanding for certain deviations from ISO standards on economic grounds or for reasons of transport technology. It was considered that the critical threshold in this respect was overstepped if the dimensions of containers no longer enabled them to be consigned by certain modes of transport or transhipped. That is why it is most important that handling facilities and devices for securing containers to transport equipment should match all containers, in other words be standardized. These points are given fuller treatment in paragraph 2 below.

2. Dimensional standards and technical co-ordination

1. Information supplied by the ISO states that activities concerning freight containers are handled by the ISO Technical Committee 104 ("Freight containers") the Secretariat of which is held by the United States of America Standards Institute. The Technical Committee comprises representatives from 41 of the national member bodies of ISO.

The scope of the Technical Committee is defined as follows: standardization of freight containers having an external volume of 1 m^3 and greater as regards terminology, classification, dimensions, specifications, test methods and marking.

The following ISO Recommendations have been published.

- dimensions and rating of freight containers;
- marking of Series 1 and 2 freight containers;
- terminology relating to freight containers (trilingual - English, French, Russian)*

Revisions of these recommendations are already being considered in the light of experience.

In addition, the following draft recommendations are being prepared for publication as ISO Recommendations:

- specification of corner fittings for Series 1 freight containers: 1A, 1B, 1C and 1D;
- specification and testing of Series 1 freight containers;
- specification and testing of Series 2 freight containers.

The future programme of work of the Technical Committee includes the following additional items:

- handling and securing devices and related equipment;
- internal dimensions of containers, Series 1 and 2;
- open-top containers (above five tons), platforms, insulated and tank containers;
- unit load modules for containers;
- marking system for containers for data processing purposes.

2. Substantial deviations from ISO standards so far noted are as follows:

Length

Before ISO standards were introduced, some specialised companies, such as Sea-Land and Matson Line, were already using containers of 35 feet and 24 feet length, and are still doing so without this creating major technical difficulties for handling or for inter-modal transport.

Height

Operators on North Atlantic routes show an inclination to adopt 8 feet 6 inches for the height of 40 foot-long containers.

This height is chosen on commercial grounds. The containers involved comply with ISO standards in every other respect and are compatible with the handling facilities and ships designed for ISO containers.

The carriage of 8 feet 6 inches containers on the main lines of most European continental railways does not raise any problems. British Rail are confronted with some problems, though containers 8 feet 6 inches in height can be carried on routes linking main ports to inland clearance terminals.

As a general rule, no difficulties arise for road transport apart from a number of underpasses which in most cases can be circumvented. The international organisations were not so much concerned about the adoption of an 8 feet 6 inches specification for the height of containers, but rather with the already existing tendency to use 9 feet

* In French, the adoption of the word "conteneur" instead of "container" is recommended. The group of Rapporteurs has concurred with this recommendation.

high containers in certain cases. Difficulties will grow as height increases and so reduces the possibilities of integrating containers in the transport chain.

Width

The German Federal Railways (DB) are considering the introduction of containers 2.60 metres high and 2.50 metres wide for continental traffic, i.e. dimensions which deviate from the ISO Recommendations for both height and width. The DB's argument for containers of this kind is the need to provide users with the same loading facilities as those commonly made available by road hauliers. Furthermore, the internal width of these containers (2.44 metres) enables them to accommodate two rows of pallets. The DB container in question does however comply with the ISO Recommendations as to handling fixtures.

The shipping lines are, however, concerned about this tendency towards the introduction of special-sized containers for European continental traffic. These units are too wide for container ships designed to comply with ISO standards. Nor can they be carried on British Railways. Shipping circles consider that this state of affairs hampers the interchangeability of containers and the formation of container pools, and so damages the prospect of fully integrated transport systems.

The DB proposals were first discussed by the "Trans-container Pushing Group" of the UIC in July 1968. An extensive test programme together with joint operating trials (particularly for pallet loading feasibility) were planned for the early months of 1969. In the Spring of that year, it will be deciced whether the introduction on an international basis of a container for European Inland Transport can be approved by the UIC.

This is a most important problem which deserves the closest attention of the ECMT in future.

3. Import procedures

1. One of the important pre-requisites of the free circulation of containers is the reciprocal recognition of tests conducted by qualified national organisations for compliance with internationally agreed standards concerning safety, custom requirements, etc. This involves various technical issues, such as tests covering maximum permissible load, stacking, strength of corner fittings and strength of securing devices for consignments under Customs seal. Most of the railways which have their own registered containers have also drawn up their own rules for testing and approval. In addition, type approval of containers is also dealt with by certification agencies.

It follows that present approval procedures and criteria can vary to a substantial degree.

2. In France, the national mark certifying conformity with approved standards (i.e. the so-called "marque NF") was instituted under the Decree Law of 12th November, 1968. This was the framework within which the Association Française de Normalisation (AFNOR) provided for the certification of ISO Series 1 freight containers as to compliance with French standards based on ISO recommendations.

In accordance with statutory provisions, the national approval mark is controlled by a special committee. The regulations for its award, which are in conformity with internationally agreed rules of certification, provide for the following procedure:

- approval of plant (inspection of production facilities and of quality control methods);
- type-approval of the container (approval of basic design and specifications);
- testing of specimen container;
- Award of the NF approval mark. If these tests give satisfactory results, the maker is entitled to affix the NF mark on all quantity produced units identical with the specimen tested at Tergnier (Aisne). Quantity produced units are inspected by the makers and by the NF inspection department. A record is kept of the test results for each container produced by the works concerned;
- products of foreign make: inspection procedures are exactly the same.
- Customs approval and the NF approval mark. The new type-approval procedure for Customs endorsement of quantity produced containers closely matches that adopted for the NF approval mark.

As a certification instrument adapted to international requirements, the NF approval mark has been designed to suit any future agreements, in particular those concerning mutual regognition of national

marks certifying conformity to standard.

3. In the Federal Republic of Germany, a special Working Party has drawn up interim provisions to ensure uniformity of type-approval for containers. These provisions are based on ISO Recommendation No. 1496 (Specifications and Testing of Series 1 Freight Container). They are to be published in 1969 as a code of practice for the Association of German Engineers (VDI). No central inspection authority is provided for. There will be mutual recognition of the certificat of approval issued by "approval centres" unless this should be contrary to international or other regulations.

4. At international level, a proposal for reciprocal acceptance of national procedures and certificates for containers tested for safety, Customs and other purposes is under study by IMCO. The various safety aspects are being studied by four sub-committees of the Maritime Safety Committee. The work of these sub-committees is co-ordinated by a fifth sub-committee - the Sub-Committee on Containers and Cargoes. Meeting in January 1969, this Sub-Committee reached broad agreement on the principle of type testing and the use of ISO Recommendations, although one or two delegations indicated that they might wish to introduce minor variations from the recommendations for their own national purposes. All delegations have been asked to confirm their agreement on these points and to indicate the variations from ISO Recommendations which they contemplated.

Mindful of the need to take into account the requirements of other organisations who would be concerned in a comprehensive scheme of the sort proposed, the IMCO Secretariat was asked to consult the ECE Inland Transport Committee and the World Health Organisation (WHO) about their requirements. The International Labour Organisation (ILO) has also been kept informed of the proposals under consideration.

Member countries will be asked to confirm their agreement to type testing of containers on the basis of ISO Recommendations by July, when the IMCO ad hoc Working Group on Facilitation will be meeting. This group was requested last year to consider the documentation aspects of the testing proposals. In the light of the reaction of Member Governments to the request of the Sub-Committee on Containers and Cargoes, the Working Group should be able to consider the form of certificate to be used (probably a plate fixed to the outside of the container). The United Kingdom has submitted a draft to the Working Group).

The next meeting of the Sub-Committee on Containers and Cargoes is scheduled for December 1969. The proposals on testing will then be considered in more detail, taking account of the views of the Working Group on Facilitation and other Organisations. It is hoped that it will be possible to reach in IMCO and at this meeting agreement on all substantive aspects.

The Inland Transport Committee of the United Nations Economic Commission for Europe is dealing with uniformity of approval procedures through its Group of Rapporteurs for Container Transport. At the fourth meeting of this Group in June 1968, it was stressed that ISO Technical Recommendations should not be disputed. It was also considered whether it would be appropriate to draft an agreement embodying the various technical requirements with which containers used for international traffic should comply. It was stated that certain ECE Working Parties such as those dealing with Customs problems and vehicle construction were considering acceptance requirements in their respective fields. The Group of Rapporteurs considered that each government should first introduce approval procedures at national level, after which there should be mutual recognition of unified certificates of approval issued by the national authorities concerned. The Group of Rapporteurs will look into the action required in this field.

IV. POOLS AND OTHER FORMS OF CO-OPERATION

1. The International Organisations regard the constitution of container pools as primarily a matter for private enterprise, but nonetheless closely linked with problems concerning the standardization of containers. Generally speaking, the International Organisations do not wish governments to intervene in the constitution of pools. Transport users do also draw attention to the risks that pools could imply if there should be excessive concentration with price policy decided by a monopoly. As the trend for the time being is rather towards overcapacity, such adverse effects of concentration are, however, unlikely at this stage.

2. The essential purpose of co-operation already exist between operators engaged in the same branch (i.e. mode) of the transport industry. For instance, so

called interchange agreements are common practice among shipowners.

In the road haulage industry too, examples of close co-operation in the container transport field are encountered. Examples of such groupings at national level are given below: In France: "Eurocontainer", a joint stock company, with 31 members, engaged in commercial and operating activities. In the Netherlands: a co-operative society established by some 70 hauliers, mainly to facilitate interchange of transport equipment.

3. Where the railways are concerned, "Intercontainer" is an instance of close co-operation across national frontiers. "Intercontainer" is the abbreviated name of the "Société Internationale pour le Transport de Transconteneurs". Founded in 1967 by eleven European railways, it has since been joined by four others. The aim of the Company is to co-ordinate and develop all types of container transport (including containers fitted with temperature regulating devices) on European railway networks and also to provide adequate services for such transport. By groupage of consignments on certain routes, this Company is able to make up train-set or even train-load lots and the corresponding rebates received from the Railways can be wholly or partly passed on to its clients. Following the lead given by the United Kingdom freightliner system, the Intercontainer Company is organising "Trans-Europ-Conteneurs-Express (TECE)" services between major rail terminals.

V. SOCIAL PROBLEMS

1. General

The social aspects of container transport have been carefully considered by the trade unions and by the other organisations and government authorities concerned. The present prospect is that containers, by rationalising handling operations, will reduce manpower requirements in the docks and, to some degree, also at sea. Where landborne transport is concerned, big changes do not seem likely at present but it must be borne in mind that container transport has not yet developed on as large a scale on land as on sea, and in view of the expected growth of inland container traffic, social problems of still unforeseeable shape might arise. On the other hand, mechanisation and automation will strengthen the drift from employment of unskilled to skilled manpower in the ports, and some of the activities hitherto handled at seaports (traditional jobs such as those concerned with the stowing, weighing and measuring of goods, and Customs clearance) may to some extent be shifted inland. Hence, the demand for the corresponding manpower will move elsewhere.

2. Trade union opinion

1. The international Transport Workers' Federation (ITF) instructed a Group of Experts to draw up a report* on the effects of containerisation on the transport industry and employment. The report recommends that every effort should be made to guarantee continued employment in similar jobs for workers threatened by redundancy. Shorter weekly working hours and longer holidays are proposed as additional measures when job opportunities are scarce. When it is seen that rationalisation measures might reduce manpower requirements, recruitment should be stopped to allow depletion of the work force by normal attrition. In addition, older workers should be offered generous early retirement pensions. All other employees should be guaranteed an adequate income in case of unemployment, which should be equivalent to previous earnings for a sufficiently long interim period. In addition, those who have been made redundant should be compensated for any difficulties arising out of a change of work.

The Report considers that such schemes should be financed from public funds, above all by employers' contributions, and proposes the establishment of special container funds on a regional basis, such funds being financed, for instance, by a fixed contribution on each container handled in the ports.

In the course of the hearing, the ITF amplified its views on the social aspects of container transport: in particular, retraining facilities should be provided for employees who were made redundant.

2. The Christian Trade Unions, members of the World Confederation of Labour, have also looked into the social problems arising from the development of

* ITF, Containerization, London, June 1968.

container transport. Their findings are summarised in a resolution of April 1968. They too consider the essential problems of employment policy concerning container transport are those which arise in the ports and the shipping industry. A far-sighted social policy should ensure that the increased investment in vessels and transhipment facilities that containerisation involves does not lead to unemployment.

3. At a tripartite technical discussion on port labour held by the International Labour Organisation (ILO) at Rotterdam from 15th to 25th April, 1969, views were exchanged on the social implications of the introduction of unit load systems, with special reference to steady employment and stability of earnings.

3. Views of other organisations

Without giving a detailed opinion on these proposals, in particular those of the ITF, the international organisations representing transport operators and forwarding agents and the members of the Group of Rapporteurs, unanimously agreed with the unions that the social stresses resulting from more intensive containerisation should be avoided.

The most difficult social problems will without doubt, arise in the ports. Apart from the social and employment policy measures that the government authorities may take to deal with these problems, there is an inclination to think that the present pace of containerisation, which seems to be less rapid than was sometimes anticipated, may contribute considerably to the alleviation of readjustment problems. Containerisation will hasten the already considerable changes that are apparent in the occupational pattern of port work forces. The increasingly skilled qualifications required cannot be disregarded. Apart from this, containerisation brings with it entirely new employment opportunities in the ports, for instance, the repair of containers and flats.

As dock work forces are being restructured in this way, it is important to draw attention to the problem of re-training.

VI. TARIFF PROBLEMS

1. In the opinion of the international organisation, the determination of container transport rates falls mainly within the jurisdiction of private enterprise. It must, however, be included in the scope of this report as container transport will doubtless lead to new tariff structures.

2. For inter-continental container traffic, as joint (or "through") rates match the principle of an integrated transport system, they are likely to become increasingly common in future. The technical problems of joint rates in international transport are also affected by the legislation of the different countries concerned in respect of inland transport and, at least in the case of the United States, also of sea transport. In order to "authorise and foster joint rates for international transportation of property", the United States envisage special legislation. Provision to this effect was included in the Bill of a "Trade Simplification Act of 1968", but this Bill was not passed by Congress last year. Under this new legislation, joint rates might no longer be the sum total of the rate for each stage and some components might therefore be absorbed. According to the OECE, the existing rate level and tariff structure resembles in most cases the existing Conference tariffs. "Freight-of-all-kinds tariffs" are still very unusual. An operator between the United States Gulf and the Dunkirk/Hamburg range is given as an instance, however, freight-of-all-kinds tariffs are common in the short-sea trades.

3. A particular problem of tariffication arises with regard to cargo insurance. In view of efficient integrated container transport, it may seem desirable to incorporate insurance into the joint rates. However, a recent attempt to offer such inclusive rates for the future Australian trade did not succeed. Here, as in many other fields, years may pass before a radically new form of transport develops its specific organisation and practices.

4. The European Railways apply to international "transcontainer" traffic the rates specified in the "Tarif Européen pour Wagons complets pour Transconteneurs - Tarif No. 9145". Special tariffs, agreed bilaterally, also exist. Some networks apply special rates, unrelated to the nature of the goods carried in the container, to internal container traffic.

5. The essence of the freightliner concept is that it is space on the train that is sold, and that charging relates to the container, not to its contents or weight.

6. In several countries, special rates are charged for road-haulers containers. There is however an inclination to base charges on mileage. Rates are determined

in the light of many factors: whether semi-trailer chassis are or are not owned by the operator, empty runs, terminal operations, ancillary charges (tolls), etc.

The national trade associations concerned with road haulage of containers are at present seeking basic tariff concepts but have not yet succeeded in working out a common tariff at international level.

VII. DEVELOPMENT OF CONTAINER TRANSPORT WITHIN EUROPE

1. European container transport is at present largely geared to maritime traffic. The United Kingdom is still the only country equipped with a domestic container transport system, i.e. the freightliner system, which is growing in a most promising way. A few railway companies and governments are at present considering the possibilities of developing container transport inside Europe. As the importance of international traffic within Europe will go on expanding, it seems advisable to watch developments in this field too at the earliest stage.

As a new technique, containerisation in its present form will affect the organisation of the transport market. It would be desirable to examine its impact on the structure of the transport system. The question arises as to what extent governments should intervene in this field.

2. The information provided by the UIC indicates that the European Railways believe in the future of large containers for entirely inland traffic, but the continental networks are not giving as much weight to this aspect as British Rail, which had to renovate its stations, rolling stock and sidings.

The continental networks consider that large containers will play an important role (a tenth of fifteenth share of French traffic, for instance) in replacing siding-to-siding consignments in conventional wagons (as the substantial reduction of terminal costs make them more competitive) and wagon-load consignments of too low a weight to justify the use of the type of bogie wagon that will come into service in future.

In addition, containers will put the railways in a better position to share in the expansion of traffic generated by the growth of industrial activity.

To deal with this traffic, the European Railways:

- have established the "Intercontainer" Company;
- are working out suitable measures concerning tariffs;
- are equipping themselves with appropriate physical facilities.

3. The UIC also indicates that the first findings of a survey conducted by a leading firm of consultants, which are most satisfactorily consistent with the railways' own figures, lead to the following estimates for international traffic (i.e. traffic involving at least two European countries) in 1975:

i) Inter-European traffic, not including the United Kingdom and Ireland:

on the basis of present traffic volumes (1966): 26 million tons

on the basis of an overall increase of 30-40% by 1975: 36 million tons.

ii) Intercontinental traffic and traffic between the United Kingdom and Ireland on one side and the continental mainland on the other:

on the basis of present traffic volumes (1966): 12 million tons

on the basis of an overall increase of 30-40% by 1975: 16 million tons

Total (1 + 2)

on the basis of present traffic volumes: 38 million tons

on the basis of an overall increase of 30-40% by 1975: 52 million tons.

4. In the light of the statement made by the IRU the road haulage industry is fairly optimistic about the future development of continental container transport, but warns against the inclination to give the railways a competitive advantage by taking unilateral measures for their benefit alone. Policy concerning the development of container transport should have no impact on the terms of competition, and in this event there would be no objections to financial incentives. Moreover, the IRU is in favour of container terminals operated by the railways and by road hauliers.

VIII. FURTHER ACTION CONCERNING ADMINISTRATIVE PROBLEMS WITHIN THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

1. Customs problems

a) Use of foreign containers in internal traffic

A resolution has been adopted recommending that foreign containers temporarily imported with goods loaded abroad, be authorised to be used - following the discharge of the imported cargo - in internal traffic for a single journey via a reasonably direct route to, or near to, the place where export cargo is to be loaded or where the container is to be re-exported empty.

b) Approval of containers by design type

Two resolutions have been adopted recommending that as from 1st January, 1969, governments accept an agreed procedure for approval by design type at the manufacturing stage of containers complying with the technical conditions for international transport of goods under Customs Seal, specified in the Customs Convention of Containers 1956 and the Customs Convention on the International Transport of Goods under cover of TIR Carnets, 1959 respectively.

c) Use of sheeted containers for the international transport of goods under Customs Seal

In view of the rapid development of the construction and utilisation of sheeted containers, a resolution has been adopted recommending that sheeted containers be approved and accepted for international transport of goods under Customs Seal, if they confirm to the provisions concerning sheeted vehicles, set out in the Customs Convention for the International Transport of Goods under cover of TIR Carnets, 1959.

d) Revision of the Customs Convention on Containers 1956*

It has been agreed to undertake the preparation of a revised text of the Customs Convention of Containers together with its annexes, taking into account the Resolutions already adopted (uniform procedure for the temporary importation of containers, marking of containers, contents and utilisation of container manifests, use of foreign containers in internal traffic, approval of containers by design type, use of sheeted containers, and special Customs provisions for certain types of container transport).

e) Revision of the Customs Convention on International Transport of Goods under cover of TIR Carnets (TIR Convention) 1959

In view of the fact that some of the provisions of the technical annexes of this Convention are similar to the provisions of the corresponding annexes of the Customs Convention on Containers, it was agreed to undertake also a revision of the relevant annexes of the TIR Convention, to bring them, where appropriate, into line with the revised text of the Customs Convention on Containers.

2. Container manifest

A study of documentary requirements in international container transport was undertaken by the ad hoc meeting to prepare a uniform container manifest, held in November 1968, with participation by governments, specialised agencies and international organisations concerned. The Meeting agreed on the desirability of an accompanying document, providing data concerning the container and its contents, and serving the purposes of transport, trade and customs. While the meeting agreed on the introduction of a uniform layout for such a document as a long-term objective, it was felt that more experience with the application of modern techniques to the transmission and processing of container documentation should be obtained before deciding upon such a layout. As proposed by the ad hoc meeting, the Inland Transport Committee adopted a resolution recommending the use of commercial documents, whether or not based on a model layout, as container manifests, with a view to acquiring practical experience of their value and disadvantages.

* Under the auspices of the Customs Co-operation Council (Brussels), work is proceeding on the drafting of a convention providing for an international Customs clearance procedure for door-to-door transport of freight and, in particular, containerised freight. (See Annex IV).

3. Liability of carriers in combined transport operations and combined transport documents

At the request of the Inland Transport Committee, the International Institute for the Unification of Private Law (UNIDROIT) decided to convene a "round table" meeting of specialised agencies and international organisations concerned to examine the desirable contents of a Convention for the contract of combined international carriage of goods, as well as the desirability of preparing a "standard combined transport contract", to be used until a convention would enter into force. The "round table" meeting is scheduled to be held during June 1969.

4. Marking of containers

The question of developing a uniform coding system for container markings is being studied in co-operation with the ISO and UIC.

5. Standardization of containers

Developments with regard to the standardization of containers are being kept under review. In view of the tendency to construct containers which do not conform in all respects to ISO standards, information is being sought from governments and international organisations, on the extent to which the construction of containers, differing in height or width or length undertaken or envisaged, on the operational and technical difficulties and safety problems arising from the use of such containers and on the purposes to be served by, and the economic advantages to be derived from these containers.

6. Multi-purpose approval of containers

The question of drawing up internationally agreed multi-purpose standards (Customs, safety, etc.) to be met by containers used in international traffic, and the reciprocal recognition of certificates of approval, issued as proof of compliance with such standards, is under study.

A draft resolution recommending that governments provide or promote arrangements for providing unified testing, approval and certification procedures based on internationally agreed standards and reciprocally recognised certificates, issued in accordance with such procedures, as being prepared for consideration by the Inland Transport Committee at its next session.

IX. PROPOSALS SUBMITTED TO GOVERNMENTS BY THE INTERNATIONAL ORGANISATIONS

1. The main proposals under this head are that better facilities should be given for container transit and for the use of imported containers for internal traffic. The international organisations also stress the need for an internationally recognised procedure for the approval of containers, and point out how this is closely bound up with problems of standardization.

These matters are already being considered by the governmental organisations concerned.

2. The international organisations, in particular the UIC, consider it desirable that governments should as soon as possible take steps to ease Customs formalities with regard to containers (e.g. by dispensing with deposits for the temporary importation of containers not registered by a railway company) and their contents.

3. One of the problems that will arise is the code to be used for the designation of goods on all documents. The ICC again calls for the universal recognition of the Brussels nomenclature which is in practice already adopted by many countries.

In the course of the hearing, the UIC drew attention to the question of carrier's liability. This raises special problems where containers are concerned as several means of transport governed by different rules concerning liability are used successively. Moreover, as the condition of the goods cannot be inspected at any point from the time when they are loaded until the container is opened at the other end, it is far more difficult to determine at which stage damage is done than in a transport chain of conventional type.

This question is also bound up with that of a single "end-to-end" transport document, which might be negotiable.

That is why draft conventions have been drawn up by UNIDROIT and by the IMC (International Maritime Committee) with a view to a complete body of regulations covering the contract of combined international carriage of goods.

It is desirable that a Convention should be drawn up and given effect as soon as possible.

The present position concerning negotiations within the United Nations Economic Commission for Europe is dealt with in Section VIII.

5. In the course of the hearing, the UIC drew attention to the need for an international body which would serve as a forum where all those concerned with containerisation (i.e. users and transport operators) could harmonize their views, and which could also handle contacts with governmental authorities and with other international organisations concerned. The UIC considers that the International Container Bureau (ICB), once reorganised and supplied with the necessary financial resources, would be a suitable organisation for this task.

Annex I

DEEP-SEA CONTAINER SERVICES

GROUP/COMPANY	SERVICES OPERATING AT THE END OF 1968 AND DEVELOPMENT PLANS			APPROXIMATE TOTAL CAPACITY	NEW SERVICES PLANNED AT THE END OF 1968 FOR 1969-1970			APPROXIMATE TOTAL CAPACITY
	PORTS SERVED		VESSELS AND CAPACITY		PORTS SERVED		VESSELS AND CAPACITY	
North Atlantic								
Atlantic Container Line Svenska Amerika Olaf Wallenius Bederi Transatlantic Cie Gen. Trans Holland-America	Le Havre Antwerp Rotterdam Bremerhaven Gothenburg	Boston New York Baltimore Norfolk	4 multi-purposes vessels of 14,000-15,000 d.w.t., carrying 460-580 containers of 20 ft.	2,000	UK Continent Scandinavia	US East Coast	6 multi-purpose vessels of 14,000-15,000 d.w.t., carrying 580 containers of 20 ft. for 1969 and early 1970	3,500
Cunard-Brocklebank	London Southampton		3 convertible part container vessels, carrying 115-140 containers of 20 ft.	400				
Hapag-Llyod Container Linien Hapag Norddeutscher Lloyd	Hamburg Bremerhaven Rotterdam Antwerp	New York	4 full container vessels of 10,800 d.w.t., carrying 728 containers of 20 ft.	2,900				
United States Lines	New York Philadelphia Baltimore	London Rotterdam Hamburg	3 full container vessels of 21,000-22,300 d.w.t., carrying 1,200 containers of 20 ft. replacing convertible part container vessels	3,600	New York Philadelphia Baltimore	Liverpool Glasgow Le Havre	3 full container vessels of 22,200 d.w.t. carrying 1,210 containers of 20 ft., early 1969	3,600
Sea Land Inc.	New York Baltimore	Felixstowe Grange-mouth Rotterdam Bremerhav.	5 converted full container vessels of approx. 7,000-10,000 d.w.t., carrying 225 or 275 containers of 35 ft.	1,800				
Container Marine Lines	New York	Felixstowe Amsterdam Bremer-haven Le Havre	3 full container ships of 15,200 d.w.t. carrying 928 containers of 20 ft., replacing converted full container vessels (early 1969).	2,800	New York Norfolk	Cadiz Barcelona Le Havre Marseilles Leghorn Genoa Naples	2 converted full container ships of 16,500 d.w.t. carrying 738 containers of 20 ft, early 1969 - 4 converted full container ships of 12,500 d.w.t., carrying 463 containers of 20 ft, for 1970	1,500 1,800
Manchester Liners	Manchester	Montreal	3 full container vessels of 12,000 d.w.t. carrying 500 containers of 20 ft.	1,500				
Compagnie Fabre	Marseilles Genoa Leghorn	New York	2 full container ships of 5,100 d.w.t. carrying 265 containers of 20 ft.	500				
Moore-McCormack	Norfolk Baltimore Philadelphia New York	Antwerp Rotterdam Amsterdam Gothenburg Oslo	4 part container vessels of 12,800 d.w.t., carrying 138 containers of 40 ft. and 19 of 20 ft.	1,200			The company is building, for 1969, four multi-purpose carriers of 16,800 d.w.t. carrying 412 containers of 40 ft.	3,300
Nordstjernan (Johnson Line)	London N. W. Europe	US West Coast Hawaii	5 part container vessels carrying 140 containers	700	Northern Europe London	US West Coast British Columbia Havaii	Full container vessels	4,000
Compagnie Générale Transatlantique	Le Havre Bordeaux London Southampton	New York Baltimore Norfolk	2 part container ships of 7,900 d.w.t. carrying 150 containers of 20 ft.	300				
Compagnie Maritime Belge	Antwerp Rotterdam Southampton	New York Norfolk	4 converted part container ships	1,200	To be determined		3 new part container ships of 15,000 d.w.t., carrying 400 containers of 20 ft. for end 1968 and 1969 - 2 full container ships of 22,000 d.w.t., carrying 1,000 containers of 20 ft. for early 1970	1,200 2,000
Canadian Pacific					Quebec	London Rotterdam	2 part container ships (by April 1969) to be replaced in 1970 by 3 full container ships of 14,000 d.w.t., carrying 700 containers of 20 ft.	300 (2,100)
Bristol City Line Cie. Maritime Belge Clark Traffic Services					United Kingdom	Canada and/or United States	3 full container vessels of 22,000 d.w.t., carrying 1,500 containers of 20 ft., for 1970	4,500
Finnlines	Boston New York Philadelphia Hampton Roads	Hamburg Baltic ports	3 part container ships, carrying 168 containers of 20 ft.	500				

GROUP/COMPANY	SERVICES OPERATING AT THE END OF 1968 AND DEVELOPMENT PLANS			APPROXIMATE TOTAL CAPACITY	NEW SERVICES PLANNED AT THE END OF 1968 FOR 1969-1970			APPROXIMATE TOTAL CAPACITY
	PORTS SERVED		VESSELS AND CAPACITY		PORTS SERVED		VESSELS AND CAPACITY	
Compania Transatlantica Espanola					Spain	US East Coast	2 part container ships of 6,500 d.w.t. carrying 120 containers of 20 ft.	200
Europe-Australia Associated Container Transportation Ben Line Blue Star Line Port Line Ellerman Line T. and J. Harrison					Tilbury	Fremantle Melbourne Sydney	3 full container vessels of 25,800 d.w.t. carrying 1,200 containers of 20 ft. to come into service during 1969	3,600
Overseas Containers Ltd. Blue Funnel Line British and Commonwealth Shipping Furness Withy and Co. P. and O.					Tilbury	Fremantle Melbourne Sydney	6 full container vessels of 29,150 d.w.t. carrying 1,300 containers of 20 ft. to come into joint service with A.C.T. during 1969	7,800
United Netherlands Navigation Cie des Messageries Maritimes Hapag/Norddeutscher Llyod					These companies plan to join the OCL/ACT services to Australia as from 1970		1 full container ship of 30,000 d.w.t. 1 full container vessel of 28,000 d.w.t. carrying 1,118 containers of 20 ft. 3 full container vessels	6,100
Japan/North America Australia								
Japan Line Kawasaki Kisen Mitsui-OSK Yamashita-Shinnibon Kisen	Kobe Tokyo	San Francisco Los Angeles	4 full container vessels of 15,400 d.w.t., carrying 700-730 containers of 20 ft.	3,000	Japan	Australia	Planned for 1969	
Nippon Yusen Kaisha Showa Kaiun	Kobe Tokyo	San Francisco Los Angeles	2 full container vessels of 15,000 d.w.t. carrying 752 containers of 20 ft.	1,500	Japan	US East Coast	Planned for 1970	
Matson Navigation Co.	San Francisco Los Angeles	Kobe Tokyo	service in co-operation with the 2nd Japanese Group; converted full container ships	1,500 (est.)				
Sea Land	Seattle San Francisco Los Angeles	Yokohama	converted full container vessels	2,000 (est.)				
States Steamship Co.					US West Coast	Japan Far East	5 part container ships of 14,300 d.w.t. carrying 144 containers of 40 ft. for 1968-69	1,400
Australian National Line					Australia	Japan	1 multi-purpose vessel of 11,000 d.w.t. carrying 550 containers of 20 ft. for late 1969	600
United States - South America								
Grace Line	US East Coast	Columbia Ecuador Peru Canal Zone	7 part container ships of 9,400 and 12,700 d.w.t. carrying 138 or 175 containers of 20 ft.	1,200				

SOURCES: A/S Shipping Consultants, Container Vessels and Container Vessel Operators/Owners, 1968 Edition. National Delegations.

The list excludes container services by conventional liner vessels, services between the United States and the Far East or Hawaii, and North-American coastal and short-distance services even if they are maintained by deep-sea vessels.

Annex II

Short Sea

1. Container (including substantially containerised) and roll-on/roll-off services in operation

Except in the specific cases indicated it is not at present possible to distinguish fully containerised services.

OPERATOR	ROUTE	C/R	FREQUENCY OF SERVICE
Anglo Irish Transport	Preston-Londonderry		4 times weekly
	Preston-Newry		3 times weekly
Associated Humber Lines	Hull-Rotterdam		5 times weekly
	Hull-Antwerp		3 times weekly
British and Irish	Liverpool-Dublin	R	6 times weekly
	Liverpool-Cork		Twice weekly
	Newport-New Ross		Twice weekly
	Runcorn-Dublin		3 times weekly
	Fishguard-Cork		3 times weekly
Batt Line	Middlesbrough-Rotterdam		Twice weekly
Belfast Steamship Co.	Liverpool-Belfast	R	6 times weekly
Bellferry Ltd.	Bellport (Newport)-Waterford	C	4 times weekly
	Teesport-Rotterdam	C	3 times weekly
Bergen Line	Newcastle-Stavanger/Haugesund/Bergen	R	3 times weekly
P. Bork Shipping Ltd.	London-Orehoved (for Copenhagen)		Weekly
	London-Vejle (for Aarhus and Odense)		Weekly
British Rail	Harwich-Rotterdam	C	5 times weekly
	Harwich-Zeebrugge	C	6 times weekly
	Harwich-Dunkirk		Daily
	Haysham-Belfast		Daily
	Holyhead-Dublin		Daily
	Dover-Boulogne	R	Daily
	Dover-Calais	R	Daily
	Dover-Dunkirk	R	Daily
	Dover-Ostend	R	Daily
	Newhaven-Dieppe	R	Daily
	Fishguard-Waterford		3 times weekly
	Fishguard-Rosslare	R	3 times weekly

C = Cellular Containerships. R = Catering for roll-on/roll-off traffic.

OPERATOR	ROUTE	C/R	FREQUENCY OF SERVICE
Burns, Laird	Ardrossan-Belfast	R	6 times weekly
Caledonian Steam Packet Co.	Stranraer-Larne	R	4 times weekly
Cawood Containers	Liverpool-Belfast	C	3 times weekly
Coast Lines	Liverpool-Belfast		Daily
Containerway and Road Ferry Ltd.	Preston-Larne		Daily
	Ardrossan-Larne		Daily
Containerships	Felixstowe-Aarhus Copenhagen, Malmo Zeebrugge and Helsinki		Weekly
	Middlesbrough-Helsinki		Weekly
DFDS	Felixstowe-Copenhagen	R	Weekly
	Felixstowe, Harwich-Copenhagen		Twice weekly
	Felixstowe, Harwich-Esbjerg	R	Twice weekly
	Grimsby-Esbjerg	R	Twice weekly
	Harwich-Esbjerg	R	3 times weekly
Ellerman's Wilson Line	Goole-Copenhagen	R	Weekly
	Hull-Gothenburg, Malmo, Halsinborg	R	3 times weekly
	Felixstowe-Halsingborg		Weekly
	London-Stockholm, Gefle		Weekly
Eurocontainer Lines	Great Yarmouth-Oslo		
European Unit Routes	Tilbury-Rotterdam	C	6 times weekly
	Tilbury-Dunkirk	C	3 times weekly
Fisher Line	Felixstowe-Rotterdam		5 times weekly
	Felixstowe-Copenhagen Esbjerg	R	Weekly
Fred Olsen Lines	Harwich-Kristiansund	R	3 times weekly
Geest Industries	Ipswich-Maassluis		Daily
	Ipswich-Emmerich		Twice daily
General Steam Navigation	Felixstowe-Amsterdam		Twice daily
George Gibson and Co.	Grangemouth-Antwerp		Weekly
	Grangemouth-Rotterdam		Weekly
	Leith-Rotterdam		Weekly
	Leith-Antwerp		Twice weekly

C = Cellular Containerships. R = Catering for roll-on/roll-off traffic.

OPERATOR	ROUTE	C/R	FREQUENCY OF SERVICE
John Good Line	Hull-Bremen		Weekly
	Hull-Hamburg		Twice weekly
Greenore Ferry Services	Preston-Greenore		3 times weekly
	Sharpness-Greenore		3 times weekly
Holland Steamship Company	Felixstowe-Amsterdam	C	3 times weekly
Ipswich Line	Felixstowe-Bremen, Hamburg	R	
Irish Sea Ferries	Liverpool-Belfast		Daily
MacPak Container Services	Southampton-Bilbao	R	3 times fortnightly
Metric Line	Runcorn-Rotterdam		Weekly
Normandy Ferries	Southampton-Le Havre	R	Daily
	Southampton-Lisbon, Casablanca	R	Fortnightly
Northern Ireland Trailers	Preston-Larne		4 times weekly
	Ardrossan-Larne		Daily
North Sea Ferries	Hull-Rotterdam	R	3 times fortnightly
Swedish Lloyd	Tilbury-Gothenburg	R	3 times fortnightly
	Middlesborough-Malmo, Gothenburg		Weekly
Thoresen Car Ferries	Southampton-Le Havre	R	Daily
	Southampton-Cherbourg	R	Daily (reduced service in winter)
Tor Line	Immingham-Gothenburg	R	Twice weekly
	Immingham-Amsterdam	R	Twice weekly
Townsend Car Ferries	Dover-Calais	R	Daily
	Dover-Zeebrugge	R	Daily
Transport Ferry Service	Felixstowe-Antwerp	R	Daily
	Felixstowe-Rotterdam	R	Daily
	Preston-Larne and Belfast	R	Daily
	Preston-Dublin and Drogheda	R	Daily
	Ardrossan-Larne	R	Daily
United Baltic Corporation	London-Cydnia		Weekly
	Tilbury, Middlesbrough-Helsinki		Weekly
Wallenius Lines and Lion Ferry	Harwich-Bremerhaven	R	5 times weekly
	Harwich-Antwerp	R	5 times weekly
	Harwich-Drammen	R	Weekly
	Harwich-Wallhamn	R	Weekly
	Harwich-Copenhagen	R	Twice weekly
Washbay Line	Kings Lynn-Hamburg	R	Twice weekly

C = Cellular Containerships. R = Catering for roll-on/roll-off traffic.

Annex III

UK FREIGHTLINER TERMINALS

Operational

Aberdeen
Birmingham-Dudley
Cardiff
Edinburgh
Glasgow
Hull
Leeds
Liverpool
London (King's Cross)
London (Stratford)
London (Willesden)
London (York Way)
Manchester (Longsight)
Newcastle
Sheffield
Southampton
Stockton

Planned

The National Freight Corporation have planned the following for completion by August 1969:

New Terminals

Birmingham (Lawley Street)
Manchester (Trafford Park)
Nottingham
Swansea

Extensions to existing terminals

Glasgow
Liverpool
London (Willesden)

Annex IV

CUSTOMS CO-OPERATION COUNCIL: ACTION TO FACILITATE THE INTERNATIONAL TRANSPORT OF CONTAINERISED GOODS

In September, 1967 the Permanent Technical Committee of the Customs Co-operation Council set up a special Working Party to resolve the customs problems inherent in the door-to-door international transport of goods, in particular, goods transported by intermodal containers.

Preliminary studies established that a new Customs Convention would be necessary if Customs Administrations were to keep abreast of the developing transport situation and offer a means of facilitation that would enable full advantage to be obtained from the use of intermodal containers.

The Convention is at present in the course of preparation. The new procedure is designed to take fully into account the nature of container operations and will enable use to be made for customs purposes of the commercial of transport documentation describing the contents of containers. The procedure will reduce to a minimum the need to examine the contents of containers during the course of transport operations by the introduction of measures of mutual assistance between Customs Administration.

The procedure will also be capable of application to goods carried by road vehicles, including roll-on/roll-off movements and, where appropriate, to goods carried by rail and inland waterway.

In addition, the Convention will introduce a new international guarantee system to cover those parts of container journeys where security is required by the customs for the import duties and taxes potentially chargeable on the goods. The system has been designed specifically to avoid delays at points of congestion in container movements, in particular, at ports of importation. It is hoped that, on cost grounds, the system will compete favourably with other systems at present in operation.

REPORT OF THE COMMITTEE OF DEPUTIES ON CLOSER ALIGNMENT OF RATES AND COSTS

[CM(69)10]

1. The concept of aligning rail rates and costs has no precise meaning except when considered in relation to the chronic deficit on rail transport, which is such as to call in question the management policy aims of the railway authorities.

It if it is held that the aim of this management is first and foremost to run a public service at fixed rates for considerations of general economic and social policy, then the deficit has to be regarded as a natural consequence of this option. If, on the other hand, it is agreed that the railways should be managed on industrial and commercial lines, the deficit is no longer justified and some alignment between the selling price of the services provided and the cost of providing those services becomes essential.

But it is also very widely acknowledged that if the railways are to improve their financial position they must obtain greater freedom as regards the prices they charge. Real freedom in this area can only be obtained, moreover, in exchange for certain financial strictures, and this is why financial improvement and freedom in respect of rates appear to be two objectives inseparable from each other.

Lastly, if the present tendencies towards closer adjustment of rates to costs are general, minimisation of these costs has to be regarded as a necessary preliminary to this adjustment. Organisation of the transport market on a competitive basis may be a powerful incentive for cost minimisation. And competitive organisation necessarily presupposes a gradual return to financial equilibrium of the railways.

2. Along with these general thoughts about the links that exist between the concept of rate and cost alignment and the problem of redressing the financial balance of the railways, it should also be remembered that one of the principal goals, whether or not explicitly stated, of a realistic pricing policy is to ensure the use of the mode of transport which, having regard to the value of the service rendered to users, entails the minimum real "production" cost for the community. The optimum allocation of resources is therefore the ultimate goal. In the light of the theory of optimum allocation of resources, an attempt is made below to see how the prices charged both for the use of infrastructures and for transport services[1] can be brought more closely into line with costs, bearing in mind that the abandonment of any attempt to relate railway rates to costs would forfeit the means of showing clearly whether the conveyance of a given traffic or the operation of a particular service consumes greater or less value than it produces.

3. The organisation of competitive market will not succeed in securing the optimum allocation of resources if the terms of competition are distorted by artificial disparities in "production" costs or by various other cost-distorting factors. The biggest distortions are due to the unequal impact of rate systems on the use of infrastructures and to unequal treatment in the matter of taxation and financing of staff social security schemes.

There are indeed institutional differences between the railways, which control their own infrastructure, and the other modes of transport, whose infrastructure is made available to users by public authorities. While tackling the problem of optimum rates for transport services, it seems essential to co-ordinate infrastructure pricing system by applying consistent

1. It is true that the considerations which apply here differ according to whether passenger or goods traffic is involved. Nevertheless, the Railways Committee considered that the premises of this report hold good for both sectors, unless specified to the contrary.

consistent principles to the different modes of transport.

Similarly, the distortions resulting from unequal tax treatment, different methods of financing staff social security schemes and public service obligations laid upon the railways should be eliminated or be compensated for according to specific and clearly-defined terms.

Lastly, the considerations that follow cannot apply where the profit-earning capacity of certain types of traffic is analysed very differently according to whether the standpoint adopted is that of commercial management or service to the community. This is particularly the case with suburban passenger transport.

4. Entirely free competition in the field of transport would imply freedom for all modes of transport to determine their prices as they see fit, no restrictions whatsoever on capacity and freedom of access to the inland waterways and road transport sectors. The implementation of such a policy involves a number of difficulties owing to lack of uniformity in the status, structure and development of the transport services and infrastructures.

These difficulties are:

- a risk of instability in the adjustment of capacities owing to the necessary fluctuation of rates in the types of transport operated by a large number of independent concerns;

- the problem of covering, in these same transport sectors, the costs of certain infrastructure investment of a very discontinuous nature;

- the levelling facilities of the railways which enable them to apply, to certain services, a "cross-subsidisation" policy whereby low prices are charged for competing services that fall short of the economic optimum for distribution of traffic among different types of transport and the losses thus incurred are offset by higher prices for their "guaranteed" traffic. Hence, the financial equilibrium constraint may not suffice to prevent such practices. However, several Delegations consider that this risk scarcely arises;

- lastly - and this is inevitable in conditions of free competition - "loss of traffic" occurs more easily and has more serious consequences for the railways than for other modes of transport, because of their difficulty in adjusting rapidly to fluctuations in traffic.

For all these reasons it is very widely acknowledged that any move towards organisation of the transport market along competitive lines must take place within a framework of market rules devised at the outset to be as impartial as possible towards the various forms of transport and rendered progressively less stringent, although how long this period of rule relaxation should last has yet to be agreed upon.

5. What is meant by the closer alignment of rates and costs? Does it mean that the rate structure should follow from the cost structure? If so, this interpretation is still very vague since it can be restated in different ways: thus, rates would be equal to costs, or rate ratios would be equal to cost ratios, or, yet again, rate differentials would be equal to cost differentials.

Should the cost structures be merely a frame of reference for working out the rate structure? Furthermore, which costs are at issue? Must rates be brought into line with average costs or with marginal costs?

Some costs are indeed common to several services or several activities and cannot be identified as attributable to one activity or to a given service without this involving a degree of arbitrariness. It cannot therefore be said that rates should reflect costs exactly. This would be impossible because the element of joint costs in a given service is not identifiable, and even if it is determined by a system of agreed apportionment between services it would not necessarily be right to charge in because the actual charge made must be it influenced by the state of the market.

Thus, there must be an element of subjective appraisal in the prices charged. But it is important to press as far as possible the division of costs, at the different aggregate levels, between joint costs and those which can be specifically allocated to one or other item of operation.

The greater the proportion of attributable charges in the total costs, the closer the structure of the rate system can be aligned with the true cost structure as the arbitrary elements are reduced.

6. What arrangements should then be envisaged for determining rail transport? prices in a purely competitive transport market? In the past there has been very little freedom in the matter of establishing these prices because of the possiblities of abusing a market dominating position, and

considerations as to the value of goods have always been predominant. Are the heavy restrictions on this freedom and the system of ad valorem rates still justified?

Applying the theory of optimum allocation of resources, the marginal cost which is largely independent of demand can be a good criterion for determining a minimum price. On the other hand, no specific and intrinsic criterion for determining a maximum price can be established on considerations of cost.

Optimum prices cannot be based on cost considerations alone, as they should consist of the marginal cost plus a "scarcity-rent" for durable assets infrastructure and transport equipment alike - but this "scarcity-rent" is entirely governed by the pressure of demand.

When a service or activity both covers its marginal costs and contributes towards joint costs by means of a "toll charge", this charge should be set at the maximum that demand will permit. The manner in which these charges are distributed between a number of activities or services is necessarily arbitrary, and so long as the total charges deriving from these services or activities covers the total joint cost it does not matter in what proportion their respective shares of the joint costs are split. In fact it is the elasticity of demand, both short and long-term, which has to be estimated in order to set the upper limit of the rates to be changed. If in any case it is thought necessary, for reasons of general economy, to impose some lower limit than is set by the market, then the question of adequate compensation arises.

However, to prevent exploitation of dominating positions which might still exist in some categories of guaranteed traffic, it is conceivable that even in a purely competitive transport market the authorities might impose a limit on charges for reasons of public policy and in return for the protection they give transport concerns from certain extremes of competition. Such a measure in respect of the maximum rate to be charged should remain non-discriminatory, however (e.g. by fixing a ceiling on all charges).

7. A system often proposed for the railways (and already used by various countries for goods transport) consists in having bracket rates, sufficiently differentiated according to costs and with moderate gaps between the brackets.

This arrangement has the advantage of being a first step towards freedom in establishing rail prices and of being simple to operate. It ensures stability and good transparency for the market provided that prices falling outside the brackets are published and that the procedures laid down to this effect have an equal impact on each mode of transport.

However, it may be regarded as having the following drawbacks:

- An inherent inflexibility, because the procedure for approval by the controlling authority is always fairly lengthy.

- Narrow-gapped bracket rates with only limited scope for exceptions imply a fairly grave risk of serious distortions in relation to the optimum allocations of resources, because objective criteria for determining price limits are difficult to define, and because market conditions - in particular the pressure of demand, can change fairly quickly.

If a system of this kind is to be applied and these disadvantages guarded against at the same time, the gaps between brackets must be wide enough and the limits must be indicative rather than absolute. In determining the percentage gap between brackets, the authorities concerned should take into account the variability of demand for the transport to which the rates in question apply, the extent to which the rates applicable within a given category of services can be differentiated and the probability of error implicit in the determination of price limits. They should also authorise the application of rates outside the bracket when this is justified by special circumstances.

8. As an alternative, a basically pragmatic method has been proposed. It may be summarised as follows:

- In all established cases involving risks of abuse of dominant position or uneconomic competition, restrictions should be imposed in the form of a maximum rate when dominant positions are abused or in the form of a minimum rate in cases of uneconomic competition, and these should be a limitation on "cross-subsidisation" in railway accounts.

- Should, on the other hand, no such situation arise, any existing restrictions should be gradually alleviated: existing fixed rates should be gradually replaced by bracket rates, and where bracket rates are already in existence, the procedures

for charging rates outside the bracket should be gradually eased, but with safeguards to maintain the transparency of the market (i.e. by the publication of "ex-bracket" prices).

The problem which then confronts the controlling authority is how to identify risks of uneconomic competition or abuse of dominant positions.

Control in this respect would be essentially pragmatic. It would be based on observation of the conditions in which the market operates in practice and the price thresholds beyond which complaints arise about abnormal situations in regard to competition. It would also include some measure of subjective appraisal with regard to the size of the price/cost gaps that can be regarded as "normal" and to other factors such as the pricing system for the use of infrastructures, quantitative restrictions, co-ordination of the terms of competition, etc.

9. To determine rail transport prices on cost considerations alone it is not enough simply to apply the theory of optimum allocation of resources. In the transport field, where there is no possibility of building stocks, demand is indeed a vital consideration. The general consensus now is to work towards freedom in establishing rail prices with a view to better adjustment to demand, according to a progressive process that will be as impartial as possible vis-à-vis the other forms of transport, although how long this process will take cannot as yet be exactly stated.

CONCLUSIONS

Regardless of the extent to which the railway system operates as a public service, it is necessary to move towards a system of management along more commercial and industrial lines as well as minimisation of costs.

Given this trend, the following different points should be remembered with regard to establishment of rates by the railway authorities of Member countries:

1. Ad valorem rates should be avoided, the essential point of reference being cost. Other factors may also have to be taken into account, notably the trend of demand.

A rate lower than the cost should not be imposed on the railways unless the authorities grant adequate compensation.

2. Calculation of rail costs should be improved, as should the cost breakdown between the various categories of traffic on the one hand, and between the transport services and the infrastructure on the other.

3. Pricing systems of charges for the use of infrastructures should be co-ordinated, by applying consistent principles for the different modes of transport and at the same time an optimum system of rates for rail services.

4. Rate systems should be made more flexible. In cases where there is a system of fixed rates, this should be replaced by a bracket system. Bracket gaps should be wide enough, the upper and lower limits being indicative rather than absolute.

Where bracket rates already exist, the criteria for fixing prices outside the bracket should be made more flexible but market transparency maintained.

5. The risks of abuse of a market dominating position or of ruinous competition must be avoided by means of a pragmatic control of the transport market by the authorities based on observation of its conditions of operation.

In cases where the aforementioned risks are liable to occur, the authorities should have the possibility of fixing a maximum rate or a minimum rate.

REPORT OF THE COMMITTEE OF DEPUTIES ON INVESTMENTS IN INLAND TRANSPORT FROM 1953 TO 1967

[CM(69)26]

I. INTRODUCTION

The Council of Ministers has been concerned with the problems connected with investment in inland transport since the institution of the ECMT.

In view of the importance of the studies and actions undertaken to ensure the efficient, orderly and well-balanced development of the transport system and its constant adaptation to the requirements of users and the community, and bearing in mind the role that investments play not only in achieving technical progress and modernisation of the transport system, but also as an instrument of co-ordination between different modes and between existing structures in the Member countries, the Council has on many occasions enquired into this complex issue. In some cases attention was given to its technical and financial aspects, in others it was considered within the context of general transport policy and, more recently, in the context of the economic research conducted under the auspices of the ECMT.

The programme of the Conference includes a number of basic issues which still remain to be dealt with from a policy and economic angle in due course, but the Investments Committee, having long being charged with specific tasks in this field, has been able to provide the Council with yearly reports of a more pragmatic kind covering achievements of European significance as regards both infrastructure and mobile equipment. Statistics of inland transport investment in previous years were appended to these reports.

With a view to facilitating the application of these statistics, it seemed useful to incorporate them in an analysis covering a long enough period to bring out the long-term trend and justify appropriate conclusions. A background review of this kind for the ten years from 1953 to 1963 was submitted to the Council in May 1964 [see CM(64)6 Final]. As the analysis contained in this paper extends the foregoing exercise up to 1967, the time series of the relevant statistics spans the 15 years from 1953 to 1967.

II. GENERAL REMARKS

Sources

1. The statistical data on which this report is based are taken from ECMT countries' replies to the Investments Committee's yearly questionnaire on investment in inland transport.

These figures, broken down by categories, are regularly included in the Committee's annual report on traffic and investment trends, but no special comments are appended. Once the figures were put together in a time series, however, a number of anomalies emerged, doubtless because of changes in certain countries' statistical or accounting methods during the period under review.

It was therefore judged necessary to check all the basic data with the national services concerned. This check made in 1969 showed that fairly important discrepancies existed between the figures given in this paper and those previously published in the "Resolutions" of ECMT.

The macro-economic magnitudes used in this paper, that is the figures for Gross National Product and Gross Fixed Capital Formation are entirely taken from the Statistical Bulletin of the OECD which is based on the standardized system of national accounting.

Definitions

2. All the data analysed in this report fall within the "gross figures" framework of national accounting systems.

Thus, all resources spent on the creation of fixed capital are treated as gross investment. The corresponding value is measured by taking into account the entire expenditure on purchase or construction of durable means of production in the inland transport sector, irrespective of whether it applies to the extension, renewal or improvement of the facilities concerned.

3. As a general rule, any goods with an average life exceeding one year are included.

On the other hand, expenditure on routine maintenance - even if it is not on strictly annual basis - is in principle omitted. Such expenditure, whilst keeping capital assets in working condition, does not substantially change their value but is rather intended to ensure the regularity and reliability of the service provided. Its treatment raises serious problems, especially in cases where expenditure allocated to maintenance of an infrastructure - a road, for instance - appreciably alters its characteristics. Since in such cases there can be no doubt as to the effects that the amounts thus spent have on the improvement of economic resources, budgetary headings have to be broken down on a conventional basis. It was indeed difficult for some countries to provide figures in the required shape on the basis of data classified for financial purposes.

4. Investment expenditure included in a given year is that which is actually paid out or charged to the budget for that year, irrespective of how far the work referred to has progressed. Where appropriate, it also includes withdrawals from stock.

5. Finally it would also have been preferable to give net investments and the corresponding net figures for macro-economic magnitudes, since the rates of depreciation for infrastructures and for the various types of mobile equipment differ because of the differences in the length of life. However, it was not possible to do this as suitable data were lacking.

How the figures are classified

6. Investments as defined above are classified under four heads as follows:

- main railway networks;
- road transport;
- inland waterways;
- local and urban railways (other than main networks, but including underground railways and trams).

Total investment is broken down under two main headings: "mobile equipment", which covers all rolling stock, vehicles and craft, and "infrastructure" which covers all fixed installations. The yearly questionnaires provided for a more elaborate breakdown, but the replies showed that some Member countries were unable to give the required details.

The classification of investment expenditure in national budgets differs, and it is all the more difficult to produce a standard lay-out when this classification is more refined. For this reason, it was judged appropriate to classify investments under broader headings in the following tables.

Comparability limits

7. Even with a fairly wide-embracing heading, however, some discrepancies still remain, either from one year to another for a given country, or as between different countries. The comparability of the statistics is consequently limited.

In this connection, attention must be drawn to the differences in the financial years to which the investment expenditure of some countries (Denmark, Italy) refers, the dating having itself changed during the period under review.

8. The main difficulty, however, concerns the information given for road vehicles. This group covers, in principle, the value of all vehicles registered in a given year (plus the value of imported second-hand vehicles, but excluding vehicles belonging to defence services and farm tractors): it embraces both commercial vehicles (i.e. buses, coaches and freight vehicles) and private vehicles (i.e. cars and motorcycles).

Though it can be assumed that the figures for the first category mentioned above do indeed constitute "investment" in an economic sense, this is not so for the second category, which should be taken into account only insofar as means of production are involved. In practice, this would mean breaking down the total amount in order to give a separate figure for vehicles registered by firms, by public authorities and by any other person or corporate body for professional purposes (doctors, lawyers, etc.). This separate treatment was asked for in the basic questionnaire, but most countries were unable to give the corresponding information.

Even in cases where the figures were broken down in this way, the country replies show striking differences from country to country and sometimes from year to year in the proportion of vehicles assigned to "investment" or to "private consumption". This seems to suggest that the classification of road vehicles under "consumption" or "investment" depends mainly on administrative and physical considerations rather than purely economic criteria. As no rational breakdown was feasible for most countries, expenditure on purchase of private cars has been entirely treated as investment.

However, with this calculation it is possible to draw an analogy between the various means of transport as account is taken, in all cases, of the infrastructures, on the one hand, and all vehicles using these infrastructures on the other.

9. It should also be noted that expenditure on development for inland waterways often serves for both navigation and other purposes. Yet the country replies frequently do not break down figures for expenditure which is economically chargeable to navigation.

10. Statistics for secondary and urban railways are generally not very clear. Since the required data on these items are not available in some countries and figures for the whole period under consideration have not been given in others or have only been given for investments in the capital or in certain particularly large population centres, they seem to be of little value, especially as the ratio of this type of investment to total expenditure is generally low.

Unit of tabulation

11. The investment figures for Member countries are expressed in the replies in current prices, that is to say at market prices and in the national currency. A common unit has been taken for the data on gross national product and gross fixed capital formation. The fact that investment is expressed in current prices often raises a problem. In the period under consideration which covers 15 years the increase in the cost of infrastructure development has particularly to be taken into account. It may be assumed that in most Member countries this increase has been higher than for mobile equipment. It would therefore have been desirable to convert the basic figures to constant prices so as to show the real development of the economic magnitudes in question and make them more suitable for comparison. However, such a conversion seems very problematical, particularly for investment, when the long-term objective does not stay the same but is subject to continuous technical change.

It is only in exceptional cases, moreover, that the specific price indices essential for conversion purposes are available. Rather than calculate investments at constant prices from indices which are only roughly accurate and by different and sometimes questionable methods it seemed preferable to keep to national values and use relative figures expressing the different investment groups as percentages of a more coherent economic unit.

III. PRESENTATION OF RESULTS

1. The overall basic data used in this report appear in a series of tables in the Annex. These tables show the figures for investment in internal transport distributed among several main categories for each of the 18 Member countries and, so far as figures have been supplied for 1963, 1957 and for each year from 1960 to 1967. However, in the light of the above remarks, great caution should be used in interpreting comparisons between these statistics.

The study of results and comments have therefore been limited to the following main aspects:

- the extent of gross investment in internal transport and its trend in time in relation to gross fixed capital formation (see Table 1);

- the structure and distribution of investment in internal transport (see Table 2);

- the development of these investments, of some of their constituents and of the macro-economic magnitudes expressed in indices, taking 1960 as the base year (see Table 3).

2. Any comments on the figures in Tables 1-3 must inevitably be of a rather general order since the causes of a particular situation in a given country or a given year cannot be fully analysed only in the light of the statistical data as such, as these are simply a record of events at a given time in transport economics history.

Table 1. INVESTMENT IN INLAND TRANSPORT

(As percentage of total gross investment of each country)

As per cent

COUNTRY	YEARS						AVERAGE 1963 to 1967
	1960	1963	1964	1965	1966	1967	
1. Austria	21.0	18.8	18.5	18.6	18.7	19.6	19.2[2]
2. Belgium	21.2	24.1	23.2	21.6	21.7	21.1	22.2
3. Denmark	29.9	24.1	25.8	23.2	25.6	25.3	24.8
4. France	16.9	18.8	17.5	20.4	21.1	20.5	19.8
5. Germany	20.3	22.5	21.3	20.3	20.1	21.7	21.1
6. Greece	10.0	13.5					
7. Ireland	31.7	27.5	26.7	23.4	24.1	21.5	24.4
8. Italy[1]	15.9	20.8	7.6	22.4	23.4	23.4	19.5
9. Luxembourg	15.3	12.4	11.1	14.6	14.7	13.4	13.1
10. Netherlands	18.1	23.2	22.8	25.3	20.9	19.5	22.1
11. Norway	15.2	18.3	19.9	18.7	19.0	18.8	18.9
12. Portugal[1]	14.0	8.3	4.2	18.1	13.7	10.1	11.1
13. Spain	17.0	17.6	19.6	19.0	22.1	23.1	20.7
14. Sweden	25.0	23.8	11.0				
15. Switzerland	19.5	21.3	22.1	20.6	21.0	20.6	21.1
16. Turkey	21.9	16.4	16.2	16.8	15.9	17.2	16.5
17. United Kingdom	27.7	26.9	26.6	24.9	24.0	24.5	25.3
18. Yugoslavia[1]	11.5	6.7	8.2	7.2	6.8		7.2[2]

1. For comparison of figures, see notes to the Tables in the Annex.
2. Average 1963 to 1966.

Table 2. STRUCTURE OF INVESTMENT IN INLAND TRANSPORT

1953 to 1967 inclusive, as per cent

COUNTRY	PERIOD	RAILWAYS			ROADS			INLAND WATERWAYS			SECONDARY AND URBAN RAILWAYS (EQUIPMENT AND INFRA-STRUCTURE)
		MOBILE EQUIPMENT	INFRA-STRUCTURE	COMBINED	MOBILE EQUIPMENT	INFRA-STRUCTURE	COMBINED	MOBILE EQUIPMENT	INFRA-STRUCTURE	COMBINED	
1	2	3	4	5	6	7	8	9	10	11	12
Austria	1953 - 57	8.6	12.0	20.6	51.0	27.1	78.1	0.6	0.7	1.3	...
	1958 - 62	5.6	9.5	15.1	56.9	23.7	80.2	...	0.6	0.6	4.1
	1963 - 67	7.0	7.0	14.0	61.4	22.7	84.1	...	0.4	0.4	1.5
Belgium	1953 - 57	6.7	10.9	17.6	60.3	16.6	76.9	2.2	3.3	5.5	...
	1958 - 62	6.9	8.5	15.4	60.0	17.5	77.5	2.1	4.5	6.6	0.3
	1963 - 67	5.3	5.9	11.2	59.0	22.0	81.0	2.2	4.6	6.8	1.0
Denmark	1953 - 57	3.4	4.1	7.5	61.5	31.0	92.5	-	-	-	...
	1958 - 62	3.0	3.8	6.8	69.0	24.0	93.0	-	-	-	0.5
	1963 - 67	2.7	2.5	5.2	61.3	32.0	93.3	-	-	-	1.1
France	1953 - 57	6.3	9.8	16.1	52.7	29.7	82.4	0.4	0.7	1.1	0.4
	1958 - 62	6.5	10.6	17.1	67.0	13.6	80.6	0.5	1.5	2.0	0.3
	1963 - 67	4.9	4.6	9.5	69.5	19.5	89.0	0.2	1.3	1.5	...
Germany	1953 - 57	7.3	10.2	17.5	59.4	18.3	77.7	1.5	0.9	2.4	2.4
	1958 - 62	5.7	10.1	15.8	56.5	23.9	80.4	0.8	1.3	2.1	1.7
	1963 - 67	3.8	6.5	10.3	53.5	32.4	85.9	0.4	0.7	1.1	2.7
Greece	1953 - 57	...	...	...	...	...	...	-	-	-	...
	1958 - 62	4.4	3.7	8.1	38.8	51.9	90.7	-	-	-	1.2
	1963 - 67										
Ireland	1953 - 57	...	...	...	...	...	...	-	...	...	...
	1958 - 62	...	...	...	...	...	...	-	...	...	...
	1963 - 67	1.8	1.5	3.3	79.0	17.5	96.5	-	0.2	0.2	....
Italy[1]	1953 - 57	4.4	13.2	17.6	70.9	11.1	82.0	0.1	0.3	0.4	....
	1958 - 62	3.5	8.9	12.4	64.0	23.5	87.5	0.0	0.1	0.1	....
	1963 - 67	4.8	7.5	12.3	63.3	24.0	87.3	0.1	0.1	0.2	0.2
Luxembourg ...	1953 - 57	6.9	16.2	23.1	58.8	18.0	76.8	-	0.1	0.1	....
	1958 - 62	8.7	15.4	24.1	56.7	19.0	75.7	-	0.2	0.2	....
	1963 - 67	11.9	3.8	15.7	55.2	16.6	71.8	-	12.5	12.5	....
Netherlands ...	1953 - 57	7.7	6.8	14.5	53.1	23.4	76.5	3.4	5.6	9.0	....
	1958 - 62	3.0	4.4	7.4	57.1	23.3	80.4	4.2	7.5	11.7	0.5
	1963 - 67	1.4	3.1	4.5	61.7	23.4	85.1	3.0	6.2	9.2	1.2
Norway	1953 - 57	5.7	13.6	19.3	56.9	23.8	80.7	-	-	-	....
	1958 - 62	3.7	8.2	11.9	61.4	23.5	84.9	-	-	-	3.2
	1963 - 67	2.6	5.3	7.9	64.2	27.9	92.1	-	-	-	....
Portugal[1]	1953 - 57	7.9	6.5	14.4	67.9	17.7	85.6	-	-	-	....
	1958 - 62	6.3	9.0	15.3	60.3	18.0	78.3	-	-	-	6.4
	1963 - 67	6.8	9.9	16.7	55.3	23.0	78.3	0.7	-	0.7	4.3
Spain	1953 - 57	12.2	8.7	20.9	61.9	17.2	79.1	-	-	-	...
	1958 - 62	5.8	9.8	15.6	71.5	12.1	83.6	-	-	-	0.8
	1963 - 67	5.0	6.7	11.7	77.8	9.8	87.6	-	-	-	0.7
Sweden	1953 - 57	5.7	6.1	11.8	66.3	21.9	88.2	-	-	-	....
	1958 - 62	4.0	4.0	8.0	64.6	25.8	90.4	-	-	-	1.6
	1963 - 67										
Switzerland ...	1953 - 57	5.2	6.6	11.8	54.8	30.1	84.9	0.9	-	0.9	2.4
	1958 - 62	5.8	5.9	11.7	58.3	26.5	84.8	0.8	-	0.8	2.7
	1963 - 67	5.7	5.9	11.6	51.2	33.1	84.3	0.2	0.5	0.7	3.4
Turkey	1953 - 57	2.8	6.1	8.9	22.5	68.6	91.1	-	-	-	....
	1958 - 62	2.0	4.3	6.3	45.8	47.9	93.7	-	-	-	....
	1963 - 67	4.0	8.1	12.1	40.6	47.3	87.9	-	-	-	....
United Kingdom.	1953 - 57	10.0	3.5	13.5	82.3	4.2	86.5	-	-	-	....
	1958 - 62	7.8	5.7	13.5	77.2	8.8	86.0	-	-	-	0.5
	1963 - 67	2.8	2.7	5.5	79.3	13.9	93.2	-	-	-	1.3
Yugoslavia[1] ...	1960 - 62	19.1	24.9	44.0	14.9	35.8	50.7	4.6	0.7	5.3	....
	1963 - 67	19.6	32.9	52.5	18.9	25.5	44.4	2.4	0.7	3.1	....

1. For comparison of figures, see notes to Tables in the Annex.

Table 3. INDICES OF INVESTMENT IN INLAND TRANSPORT COMPARED WITH THE DEVELOPMENT OF CERTAIN MACRO-ECONOMIC MAGNITUDES

Indices 1960 = 100

COUNTRY	ITEM \ INDEX	1960	1961	1962	1963	1964	1965	1966	1967
Austria	Gross National Product	100	110	117	126	137	149	161	171
	Gross Fixed Capital Formation	100	115	120	130	144	161	178	183
	Total investment in inland transport	100	101	110	116	127	143	158	172
	Investments in:								
	railway infrastructure	100	86	118	123	119	112	106	131
	road infrastructure	100	117	119	116	128	138	159	190
	inland waterways infrastructure	100	84	64	78	107	64	79	57
Belgium	Gross National Product	100	106	113	122	136	149	160	170
	Gross Fixed Capital Formation	100	112	122	129	154	168	184	198
	Total investment in inland transport	100	109	122	143	165	166	183	196
	Investments in:								
	railway infrastructure	100	102	99	106	112	120	118	128
	road infrastructure	100	105	126	187	258	176	226	297
	inland waterways infrastructure	100	109	136	137	136	173	200	182
Denmark	Gross National Product	100	112	124	134	151	171	188	205
	Gross Fixed Capital Formation	100	117	138	139	175	187	200	225
	Total investment in inland transport	100	117	129	108	146	145	175	192
	Investments in:								
	railway infrastructure	100	154	150	125	117	132	121	117
	road infrastructure	100	122	137	123	183	233	252	313
	inland waterways infrastructure	100	-	-	-	-	-	-	-
France	Gross National Product	100	108	120	134	147	157	169	180
	Gross Fixed Capital Formation	100	114	127	145	167	184	198	214
	Total investment in inland transport	100	110	144	166	175	220	246	258
	Investments in:								
	railway infrastructure	100	107	82	92	91	83	83	85
	road infrastructure	100	124	142	178	196	377	421	458
	inland waterways infrastructure	100	119	104	126	192	210	189	247
Germany	Gross National Product	100	110	119	127	139	152	162	163
	Gross Fixed Capital Formation	100	114	128	135	155	168	173	156
	Total investment in inland transport	100	122	136	149	162	168	170	168
	Investments in:								
	railway infrastructure	100	114	113	117	127	86	73	104
	road infrastructure	100	144	185	222	251	253	261	273
	inland waterways infrastructure	100	152	110	113	97	96	89	122
Greece	Gross National Product	100	114	121	134	150	168	187	202
	Gross Fixed Capital Formation	100	100	101	100	130	151	175	172
	Total investment in inland transport	100	126	123	135	...	...	...	...
	Investments in:								
	railway infrastructure	100	105	70	95	86	105	99	65
	road infrastructure	100	101	89	96	71	91	104	112
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Ireland	Gross National Product	100	107	116	124	141	151	158	171
	Gross Fixed Capital Formation	100	121	143	166	194	221	216	237
	Total investment in inland transport	100	116	133	144	163	163	164	160
	Investments in:								
	railway infrastructure	100	145	148	146	181	142	222	247
	road infrastructure	100	131	133	137	156	158	160	163
	inland waterways infrastructure	100	515	677	461	669	392	423	461
Italy[1]	Gross National Product	100	111	125	143	157	169	183	199
	Gross Fixed Capital Formation	100	114	131	153	154	144	152	171
	Total investment in inland transport	100	130	160	201	74	204	224	252
	Investments in:								
	railway infrastructure	100	124	109	92	185	167	158	143
	road infrastructure	100	112	103	114	155	170	191	239
	inland waterways infrastructure	100	78	122	-	247	83	307	16
Luxembourg	Gross National Product	100	103	104	111	128	134	140	143
	Gross Fixed Capital Formation	100	116	131	162	207	180	180	163
	Total investment in inland transport	100	90	92	131	150	171	172	142
	Investments in:								
	railway infrastructure	100	66	51	57	28	42	53	37
	road infrastructure	100	112	150	187	138	167	194	167
	inland waterways infrastructure	100	-	-	143	720	977	623	206

1. For comparison of figures, see notes to Tables in the Annex.

Table 3. (Continued)

COUNTRY	ITEM \ INDEX	1960	1961	1962	1963	1964	1965	1966	1967
Netherlands	Gross National Product	100	106	113	124	145	162	175	192
	Gross Fixed Capital Formation	100	108	115	123	154	169	188	208
	Total investment in inland transport	100	121	141	158	193	235	216	224
	Investments in:								
	railway infrastructure	100	106	115	99	140	161	168	141
	road infrastructure	100	126	140	156	201	237	247	214
	inland waterways infrastructure	100	114	138	147	196	206	217	241
Norway	Gross National Product	100	109	117	127	140	155	168	184
	Gross Fixed Capital Formation	100	113	121	133	138	155	170	198
	Total Investment in inland transport	100	122	147	160	180	191	212	245
	Investments in:								
	railway infrastructure	100	105	109	108	122	105	112	118
	road infrastructure	100	110	140	169	206	230	237	278
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Portugal[1]	Gross National Product	100	106	114	123	134	148	162	183
	Gross Fixed Capital Formation	100	108	110	127	132	148	178	204
	Total investment in inland transport	100	99	59	75	40	192	175	148
	Investments in:								
	railway infrastructure	100	152	47	135	120	236	146	192
	road infrastructure	100	107	107	113	95	302	243	140
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Spain	Gross National Product	100	113	124	152	177	209	240	263
	Gross Fixed Capital Formation	100	129	161	199	240	289	328	341
	Total investment in inland transport	100	141	159	212	282	329	435	471
	Investments in:								
	railway infrastructure	100	93	41	157	125	155	208	225
	road infrastructure	100	150	105	175	230	235	370	435
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Sweden	Gross National Product	100	109	118	128	143	158	172	185
	Gross Fixed Capital Formation	100	112	122	135	152	167	185	201
	Total investment in inland transport	100	108	111	129	67	...	...	...
	Investments in:								
	railway infrastructure	100	87	39	67	62	59	56	74
	road infrastructure	100	98	102	119	212	93	82	90
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Switzerland	Gross National Product	100	112	124	136	150	162	174	186
	Gross Fixed Capital Formation	100	125	146	166	189	192	197	202
	Total investment in inland transport	100	125	163	182	215	203	213	213
	Investments in:								
	railway infrastructure	100	106	131	164	180	200	199	212
	road infrastructure	100	140	210	290	337	319	341	343
	inland waterways infrastructure	...	...	...	...	...	...	...	...
Turkey	Gross National Product	100	100	113	129	139	149	175	195
	Gross Fixed Capital Formation	100	95	109	130	135	154	194	217
	Total investment in inland transport	100	98	101	97	99	118	141	171
	Investments in:								
	railway infrastructure	100	67	106	106	89	133	382	328
	road infrastructure	100	112	106	117	113	122	151	190
	inland waterways infrastructure	-	-	-	-	-	-	-	-
United Kingdom	Gross National Product	100	107	112	119	129	139	148	154
	Gross Fixed Capital Formation	100	112	115	119	142	154	162	173
	Total investment in inland transport	100	96	99	115	136	138	140	154
	Investments in:								
	railway infrastructure	100	91	57	45	57	57	67	55
	road infrastructure	100	123	151	167	214	253	271	346
	inland waterways infrastructure	-	-	-	-	-	-	-	-
Yugoslavia	Gross National Product	100	119	136	164	215	282	351	...
	Gross Fixed Capital Formation	100	124	142	169	218	233	269	...
	Total investment in inland transport	100	109	98	99	155	145	158	162
	Investments in:								
	railway infrastructure	100	100	82	81	153	216	222	198
	road infrastructure	100	119	120	117	189	108	64	87
	inland waterways infrastructure	100	114	114	57	86	214	271	214

1. For comparison of figures, see notes to Tables in the Annex.

The size, structure and development of inland transport investment clearly follows from many decisions taken either by the governments or by the enterprises concerned or in the case of private cars, by families the reciprocal effects of which cannot be discussed in detail in this report as adequate information is lacking. The following comments are therefore mainly confined to an observation of past events without attempting to explain their true causes, for this would imply a study based on far more ample data than those obtained in reply to the annual questionnaire issued by the ECMT.

A. GROSS INVESTMENT IN INLAND TRANSPORT AS COMPARED WITH GROSS FIXED CAPITAL FORMATION

3. Table 1 shows inland transport investment as a percentage of gross fixed capital formation in each country for the year 1960 and for the years 1963-1967. The last column in Table 1 gives the average for the five years.

If Table 1 is to be rightly understood, it must first be made clear that the figures reflect a statistical ratio rather than a proportion in the true sense because, as explained above (See Chapter II, paragraph 8), inland transport is not an integral part of gross fixed capital formation as some of its component elements should theoretically be classified under private consumption.

4. Table 1 does however give some idea of the scale of inland transport equipment within each country' s macro-economic framework.

Seen from this angle, inland transport investment ranges, on average, from 20 to 25% of all gross investment, but there are deviations from this standard in the case of Luxembourg, Portugal, Yugoslavia and, to a lesser degree, Turkey.

The percentages shown in Table 1 for the period 1960-1967 do not seem to indicate any distinct trend, the figures for most countries having varied irregularly, albeit within fairly narrow limits. A slightly rising trend can in fact be discerned only in the case of France and Spain and a slightly falling tendency for Ireland and the United Kingdom.

5. Even if no account is taken of certain causes of uncertainty as to the definition of the two orders of magnitude compared, the figures under review raise the question whether the economic resources assigned to the inland transport sector are even taking into account the sources rendered by private cars balanced by the output of this sector, a sufficient increase in productivity, a corresponding improvement in the standard of service and an adequate contribution to the welfare of the community, for this must ultimately be the main criterion for the allocation of capital resources to each sector of economic activity.

It is true that nearly all investment in inland transport produces effects that are extraneous to this sector or effects that are not easily measurable for national accounting purposes, but the fact remains that the resources spent on expansion, renewal or improvement of transport equipment are relatively considerable.

This being so, the only conclusion is to emphasize the need for widespread application of modern methods for rational decision-making on investment projects in an overall transport planning context and in the light of scientific criteria designed to ensure the most favourable profit-cost balance for the community.

B. STRUCTURE AND DISTRIBUTION OF GROSS INVESTMENT IN INLAND TRANSPORT

6. Table 2 gives separate figures for investment in fixed installations (infrastructure) and mobile equipment for each of the modes referred to. It covers the 15 years from 1953-1957, broken down into three 5-year periods, and shows the average percentage of total inland transport investment that each category of investment accounts for.

To compare the structures shown in this fashion, attention will be given to the differences in the percentage of total investment accounted for by fixed installations (infrastructure).

Structure for all three modes

7. On average, the proportion in question is 34%, and there is little variation from one 5-year period to another. It is particularly high for Turkey (61%), Yugoslavia

(60%), Greece (56%) and low for the United Kingdom (13%), Ireland (19%) and Spain (21%).

However, this overall picture embraces very different structures for each mode and it is better to discuss these separately.

Structure by mode

8. On average, fixed installations account for 57% of investment in the Railways, and remain fairly steady over the years. Much higher figures are recorded for Italy (69%), Norway (69%) and Turkey (68%) and lower ones for the United Kingdom (39%), Ireland (45%) and Greece (46%). It may be inferred that the first group of countries is inclined to spend more on infrastructure and the second on mobile equipment.

9. The corresponding overall average for the road transport sector is only 30%, which means that vehicles account for 70% of "road transport investment". This average for all countries combined rose slightly during the second 5-year period under review (1958-1962), then dropped back during the years 1963-1967, but these were slight changes of no great significance. The highest figures were scored by Yugoslavia (64%), Turkey (60%) and Greece (57%) (for the period 1958-1962 only) and the lowest by the United Kingdom (10%), Spain (16%) and Ireland (18%). The countries which came closest to the average throughout all three periods were Norway and the Netherlands.

10. The figures for inland waterways cover eleven countries only and leave a number of gaps. It seems odd that there should be no investment in mobile equipment recorded in six cases and no investment in fixed installations in three others. Subject to these reservations, the average for the eleven countries combined over the three 5-year periods is 62%. The averages for each period are fairly steady: 56% for the period 1953-1957, followed by 65% and 63% for the two subsequent ones.

The steadiest figures, and those closest to the average are those for Belgium (65%) and the Netherlands (64%).

CONCLUSION

11. The structure of investment does not indicate any distinct development trend, discerned between the three modes under review. The overall structure, heavily weighted as it is by road transport investment, is not altogether meaningful.

Comparison of investment in infrastructure for each mode brings out a striking distinction: about 60% of the total for railways and inland waterways, and only 30% for road transport. Railway electrification, the use of waterways for purposes other than transport and, conversely the "non-commercial" aspect of car ownership doubtless accounts for this to some extent, but it can be assumed that the disparities are largely due to technological differences.

It would be useful to make a careful study in order to analyse the causes of the disparities between modes, as regards both internal structure and overall distribution of investment, which seem common to all Member countries of the ECMT.

C. TREND OF INLAND TRANSPORT INVESTMENT COMPARED WITH THAT OF CERTAIN MACRO-ECONOMIC MAGNITUDES

12. After this analysis of the structure of the inland transport investment and its components, let us now consider the figures from a more dynamic angle which takes into account the trend of the various relevant items. In this connection, a series of indices have been calculated to cover, on the one hand, the trend of Gross National Product and Gross Fixed Capital Formation (as representative magnitudes for measuring general economic activity) and on the other hand, the trend of overall transport investment and of infrastructural investment for each mode. These indices are shown in Table 3. The base year (1960 = 100) is the same as that adopted for indices of passenger and freight transport demand in ECMT forecasting studies. In this way, it will be easier in future to compare the long-term trends of transport demand, output and investment.

From the indices in Table 3, it is also possible to see the yearly fluctuations of the various factors under review during the period 1960-1967 and thus, where appropriate, to ascertain how transport investment is affected by cyclical conditions in a given country.

Trend of economic activity

13. First, if we take the indices of general economic activity, the rate of expansion for nearly all Member countries is strikingly high.

It must be borne in mind that as these indices refer to National Product at current prices, they also reflect price increases which often differ fairly widely from one country to another which, to some extent, distorts comparisons.

Having made this remark, it is seen that, gross national product increased in a period of only seven years by about a 100% or even more in seven countries, (Denmark, Spain, Greece, Italy, the Netherlands, Turkey and Yugoslavia). For the other countries, the rate of increase in all cases ranged between 70 and 86% and was relatively slight only in Germany, Luxembourg and the United Kingdom.

Gross Fixed Capital Formation during the same period 1960-1967 rose even faster than Gross National Product in nearly all countries except Greece, Italy, Yugoslavia and (for 1967 only) Germany. In many cases, the level reached was easily twice as high as in 1960, and it can thus be inferred that the years under review were characterised by an active development of investments which stimulated expansion, whilst private consumption (also expressed at current prices) must have risen at a slightly lower pace in most countries.

Trend of total investment in inland transport

14. After this review of the general context within which the trend of inland transport investment develops, we must now see whether this investment has grown at the same pace as the national economy as a whole and, if not, how far it deviates from this standard and what are the tendencies peculiar to the transport sector.

From this angle, the countries concerned can be classified in three groups. In the first group, the indices of total transport investment throughout the period under review, or at any rate for most of it, plainly exceed those for general economic activity (Germany, Spain, France, Italy, Norway, the Netherlands and Switzerland).

This means that in the countries referred to, transport investment has drawn ahead of G.N.P. and of total investment in the economy as a whole: transport equipment is accounting for a growing share of available resources.

In the second group, these indices are higher than those for G.N.P. but lower than those for Gross Fixed Capital Formation, i.e. than the growth of total investment in the national economy. The countries it comprises are, Belgium, Ireland (except in 1967) and Luxembourg.

In the third group, the rate of increase for inland transport investment is distinctly lower than that of the two macro-economic indicators. Hence, the development of transport equipment to some extent lags behind that of general economic activity. This applies to Denmark, Greece, Portugal, (subject to certain anomalies in the time series concerning that country), the United Kingdom, Sweden, Turkey and Yugoslavia. Austria might also be added to this group, as in that country there has been an alignment of the indices relating to investment in transport on those relating to G.N.P. towards the end of the period under consideration.

Trend of infrastructural investment

15. If we look at the trend of infrastructural investment in each mode of transport, it is clear that road transport is absorbing increasingly more resources for fixed installations than its competitors. The amounts spent on road infrastructure do indeed far exceed the corresponding indices for other modes in most countries (Germany, Austria, Belgium, Denmark, Spain, France, Italy, Norway, the Netherlands, the United Kingdom and Switzerland).

In Sweden, the indices for investment in road infrastructure though still higher than those for railway infrastructures, have shown a distinctly downward tendency since 1965 and the trends for these two modes thus seem to be drawing more closely into line.

Apart from the fluctuations in the indices for Portugal and Turkey, and the striking increase in inland waterway investment in Ireland, Luxembourg (canalisation of the Moselle) and Yugoslavia, it is railway infrastructure which most often lies at the bottom of the bracket for the indices referred to. In spite of this, even railway infrastructural investment has shown a fairly sizeable increase in certain countries

(Spain, Ireland, Portugal, Switzerland, Turkey and Yugoslavia). By contrast, other countries showed a declining trend in this respect for most of the years under review (France, Greece, Luxembourg, United Kingdom and Sweden).

Many problems arise in this respect, and one of them is whether the situation prevailing during the base year corresponds to a suitable balance between modes Relationships between investment and demand trends should also be investigated from the quantitative and qualitative angles alike.

It lies with transport policy-makers to consider the whole problem of the co-ordination of inland transport investment in order that each mode and its corresponding infrastructure will develop harmoniously and in the best interests of the community.

Table 1. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

GERMANY

Millions of DM

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	147,100	216,300	296,800	326,200	354,500	377,600	413,800	452,700	480,000	483,900
Gross fixed capital formation[1]	29,100	46,490	70,620	80,710	90,200	95,340	109,150	118,920	121,900	110,400
1. Railways	1,050	1,903	2,222	2,743	2,840	2,868	3,078	2,247	1,805	2,093
a) Mobile equipment	376	740	714	1,018	1,135	1,102	1,157	952	699	532
b) Infra-structure	674	1,163	1,508	1,725	1,705	1,766	1,921	1,295	1,106	1,561
2. Roads	5,027	7,841	11,627	14,255	16,096	17,764	19,463	21,123	21,656	20,834
a) Mobile equipment	4,093	5,798	8,613	9,925	10,514	11,082	11,890	13,483	13,801	12,553
b) Infra-structure	934	2,043	3,014	4,330	5,582	6,682	7,573	7,640	7,855	8,281
3. Inland water-ways	173	226	241	333	304	299	268	243	216	238
a) Mobile equipment	95	150	90	103	138	128	122	98	81	53
b) Infra-structure	78	75	151	230	166	171	146	145	135	185
4. Secondary and urban railways	189	266	262	250	305	481	442	571	770	887
Investment in inland transport (1.+2.+3.+4.)	6,439	10,236	14,352	17,581	19,545	21,412	23,252	24,184	24,447	24,052

1. SOURCE: OECD Statistical Bulletin.

Table 2. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

AUSTRIA

Millions of Schillings

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	82,970	130,820	161,290	177,470	188,270	202,780	221,150	240,220	260,500	276,500
Gross fixed capital formation[1]	14,290	28,600	38,260	43,870	46,090	49,590	54,940	61,540	67,980	70,200
1. Railways	676	909	1,046	931	1,331	1,394	1,489	1,583	1,402	2,224
a) Mobile equipment	243	475	361	345	525	549	675	816	676	1,330
b) Infra-structure	433	434	685	586	806	845	813	767	726	894
2. Roads	...	5,007	6,424	6,829	7,266	7,749	8,533	9,685	11,045	11,317
a) Mobile equipment	...	3,200	4,638	4,815	5,133	5,672	6,248	7,226	8,204	7,924
b) Infra-structure[2]	765	1,807	1,786	2,014	2,133	2,077	2,285	2,459	2,841	3,393
3. Inland water-ways	40	68	58	49	37	45	62	37	46	33
a) Mobile equipment	21	28	...	...	...	...	...	...	....	...
b) Infra-structure	19	40	58	49	37	45	62	37	46	33
4. Secondary and urban railways	...	...	494	301	183	136	107	168	205	190
Investment in inland transport (1.+2.+3.+4.)	1,481	5,984	8,022	8,110	8,817	9,324	10,191	11,473	12,700	13,764

1. SOURCE: OECD Statistical Bulletin.
2. Motor Road and Federal roads only.

Table 3. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

BELGIUM

Millions of Belgian francs

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	415,276	519,210	572,600	606,100	648,000	697,900	781,800	852,800	916,300	977,100
Gross fixed capital formation[1]	66,300	90,600	106,600	119,800	131,300	137,600	164,800	178,600	196,600	212,400
1. Railways	3,192	3,180	3,211	3,757	3,886	4,535	4,116	4,142	5,055	4,302
a) Mobile equipment	967	1,397	1,215	1,715	1,913	2,428	1,884	1,750	2,692	1,753
b) Infra-structure	2,225	1,783	1,996	2,042	1,973	2,107	2,232	2,392	2,363	2,549
2. Roads	11,727	16,947	17,756	19,211	21,357	26,092	31,416	31,309	33,952	37,119
a) Mobile equipment	9,403	12,678	13,999	15,254	16,603	19,016	21,630	24,559	25,368	25,844
b) Infra-structure	2,324	4,269	3,757	3,957	4,754	7,076	9,786	6,750	8,584	11,275
3. Inland water-ways	747	1,476	1,533	1,717	2,205	2,494	2,614	2,916	3,027	2,450
a) Mobile equipment	307	606	390	510	750	950	1,125	972	1,842	450
b) Infra-structure	440	870	1,143	1,207	1,455	1,544	1,489	1,944	2,185	2,000
4. Secondary and urban railways	...	...	135	138	230	40	91	175	557	911
Investment in inland transport (1.+2.+3.+4.)	15,666	21,603	22,635	24,823	27,678	33,161	38,237	38,542	42,591	44,782

1. SOURCE: OECD Statistical Bulletin.

Table 4. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

DENMARK

Millions of Danish kroner

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	26,378	32,824	41,131	45,581	51,370	54,647	62,464	70,162	77,076	84,259
Gross fixed capital formation[1]	4,495	5,548	7,961	9,375	10,663	10,830	13,667	15,117	16,339	18,000
1. Railways	91	112	144	203	183	180	181	208	194	189
a) Mobile equipment	38	48	68	86	69	85	92	108	102	100
b) Infra-structure	53	64	76	117	114	95	89	100	92	89
2. Roads	1,130	1,313	2,230	2,544	2,901	2,432	3,324	3,249	3,921	4,299
a) Mobile equipment	745	873	1,691	1,887	2,164	1,768	2,340	1,991	2,563	2,609
b) Infra-structure	384	440	539	657	737	664	984	1,258	1,358	1,690
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	...	...	3	4	...	...	27	44	60	65
Investment in inland transport (1.+2.+3.+4.)	1,221	1,425	2,377	2,751	3,084	2,612	3,532	3,501	4,175	4,553

1. SOURCE: OECD Statistical Bulletin.

Table 5. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

SPAIN

Millions of pesetas

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	...	...	615,100	696,900	795,500	938,600	1,088,000	1,287,100	1,477,400	1,616,500
Gross fixed capital formation[1]	...	97,600	101,600	132,300	164,500	203,000	244,900	294,700	334,800	346,800
1. Railways	1,649	2,075	3,240	3,050	1,645	5,561	5,516	6,207	9,021	8,227
a) Mobile equipment	938	1,089	958	927	713	1,968	2,670	2,665	4,266	3,098
b) Infra-structure	711	986	2,282	2,123	932	3,593	2,846	3,542	4,755	5,129
2. Roads	4,107	11,436	13,858	20,997	25,553	29,973	42,200	49,400	64,516	71,521
a) Mobile equipment	2,669	9,405	11,943	17,967	23,459	26,494	37,627	44,677	57,130	62,835
b) Infra-structure	1,438	2,031	1,915	3,030	2,094	3,479	4,573	4,723	7,386	8,686
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways[2]	...	...	187	214	...	203	363	394	597	452
Investment in inland transport (1.+2.+3.+4.)	5,756	13,511	17,285	24,260	27,198	35,737	48,079	56,001	74,134	80,200

1. SOURCE: OECD Statistical Bulletin
2. Excluding underground railways.

Table 6. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

FRANCE

Millions of francs

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	150,390	211,110	296,220	319,690	356,290	395,970	435,240	464,720	500,530	537,710
Gross fixed capital formation[1]	24,140	40,340	55,240	62,870	70,180	79,630	92,300	100,580	109,010	117,700
1. Railways	782	1,008	1,664	1,750	1,510	1,645	1,762	1,864	1,966	2,027
a) Mobile equipment	293	409	647	673	672	713	832	1,022	1,124	1,161
b) Infra-structure	489	599	1,017	1,087	838	932	930	842	842	866
2. Roads	...	6,338	7,466	8,350	10,871	13,074	13,748	18,288	20,740	21,689
a) Mobile equipment	...	4,333	6,289	6,894	9,195	10,980	11,440	13,853	15,785	16,294
b) Infra-structure	1,430	2,005	1,177	1,456	1,676	2,094	2,308	4,435	4,955	5,395
3. Inland water-ways	37	92	171	202	183	223	309	345	283	371
a) Mobile equipment	14	29	37	43	43	54	51	64	29	40
b) Infra-structure	23	63	134	159	140	169	258	281	254	331
4. Secondary and urban railways	18	26	28	34	165	...	298	...	...	...
Investment in inland transport (1.+2.+3.+4.)	(2,267)	7,464	9,329	10,345	12,729	14,942	16,116	20,497	22,989	24,087

1. SOURCE: OECD Statistical Bulletin.

Table 7. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

GREECE

Millions of drachmas

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	54,105	90,438	105,373	119,742	127,433	140,963	157,679	177,354	197,353	213,386
Gross fixed capital formation[1]	6,823	13,443	27,817	27,764	27,972	27,812	36,134	41,878	48,774	47,770
1. Railways	...	...	138	226	305	134	136	267	344	437
a) Mobile equipment	...	...	27	110	227	28	41	150	234	365
b) Infra-structure	...	...	111	116	78	106	95	117	110	72
2. Roads	...	...	2,614	3,232	3,086	3,617	...	...	...	...
a) Mobile equipment	...	...	894	1,491	1,550	1,962	...	...	...	...
b) Infra-structure	...	...	1,720	1,741	1,536	1,655	1,227	1,558	1,790	1,925
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	...	...	24	34	18	...	...	7	7	3
Investment in inland transport (1.+2.+3.+4.)	...	...	2,776	3,492	3,409	3,751	...	...	...	...

1. Source: OECD Statistical Bulletin.

Table 8. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

IRELAND

Thousands of pounds sterling

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G.N.P.[1]	513,800	568,700	661,700	710,800	766,200	823,800	933,400	996,300	1,046,000	1,131,000
Gross fixed capital formation[1]	81,400	80,200	89,600	108,500	128,500	148,600	174,100	197,900	194,000	212,000
1. Railways	...	...	729	1,517	3,169	1,240	1,419	1,416	2,124	1,305
a) Mobile equipment	...	...	359	979	2,620	698	750	892	1,303	391
b) Infra-structure	...	...	370	538	549	542	669	524	821	914
2. Roads	...	...	27,681	31,426	34,701	39,539	44,928	44,764	44,567	44,264
a) Mobile equipment	...	...	22,572	24,720	27,898	32,529	36,959	36,713	36,378	35,910
b) Infra-structure	...	...	5,105	6,706	6,803	7,010	7,969	8,051	8,189	8,354
3. Inland water-ways	...	...	13	67	88	60	87	51	55	60
a) Mobile equipment	...	...	-	-	-	-	-	-	-	-
b) Infra-structure	...	...	13	67	88	60	87	51	55	60
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1.+2.+3.+4.)	...	...	28,423	33,010	37,958	40,839	46,434	46,231	46,746	45,629

1. Source: OECD Statistical Bulletin.

Table 9. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

ITALY

Millions of liras

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	12,486,000	17,081,000	21,071,000	23,363,000	26,330,000	30,193,000	33,077,000	35,648,000	38,493,000	41,849,000
Gross fixed capital formation [1]	2,382,000	3,681,000	4,667,000	5,333,000	6,129,000	7,150,000	7,201,000	6,724,000	7,080,000	7,990,000
1. Railways	54,631[2]	70,052[2]	99,472[2]	113,777[2]	105,682[2]	118,959[2]	235,976[3]	196,361[4]	179,929[4]	141,926[4]
a) Mobile equipment	14,813	20,160	27,931	25,139	27,922	53,440	103,520	76,974	66,550	39,653
b) Infra-structure	39,818	49,892	71,541	88,638	77,760	65,519	132,456	119,387	113,379	102,273
2. Roads	245,892	385,835	639,355	847,412	1,071,522	1,363,941	303,727	1,306,470	1,467,480	1,724,000
a) Mobile equipment	229,077	316,068	444,200	629,600	870,000	1,141,000	956	974,000	1,095,000	1,258,000
b) Infra-structure	16,815	69,767	195,155	217,812	201,522	222,941	302,771	332,470	372,480	466,000
3. Inland water-ways	1,697	1,925	1,145	992	1,700	700	3,310	1,766	3,423	1,047
a) Mobile equipment	207	256	325	352	700	700	1,286	1,085	903	917
b) Infra-structure	1,490	1,669	820	640	1,000	-	2,024	681	2,520	130
4. Secondary and urban railways	...	...	...	...	7,805	5,256	3,767	2,585	3,384	1,303
Investment in inland transport (1.+2.+3.+4.)	302,220	457,812	739,972	962,181	1,186,709	1,488,856	546,780	1,507,182	1,654,216	1,868,276

1. Source: OECD Statistical Bulletin.
2. Figures for the financial years 1952-53, 1956-57, 1959-60, 1960-61, 1961-62 and 1962-63.
3. Of which 150,298 million (73,874 + 76,424) are for the 1963-64 financial year and 85,678 million (29,646 + 56,032) for the second half of 1964.
4. Figures for 1965, 1966 and 1967 in application of the law providing that after 1965 the financial year should be from 1st January to 31st December.

Table 10. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

LUXEMBOURG

Millions of Luxembourg francs

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	16,563	21,935	24,689	25,340	25,796	27,496	31,596	33,117	34,665	35,412
Gross fixed capital formation [1]	4,009	5,253	5,458	6,328	7,131	8,826	11,300	9,825	9,805	8,883
1. Railways	130	296	227	83	106	240	225	189	218	135
a) Mobile equipment	38	104	114	8	48	176	193	141	158	93
b) Infra-structure	92	192	113	75	58	64	32	48	60	42
2. Roads	504	724	607	670	662	812	812	953	1,037	994
a) Mobile equipment	381	562	482	530	474	578	640	744	794	785
b) Infra-structure	123	162	125	140	188	234	172	209	243	209
3. Inland water-ways	-	6	3	-	-	43	216	293	187	62
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	6	3	-	-	43	216	293	187	62
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1.+2.+3.+4.)	634	1,026	837	753	768	1,095	1,252	1,435	1,442	1,191

1. Source: OECD Statistical Bulletin.

Table 11. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

NORWAY

Millions of Norwegian kroner

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P.[1]	20,874	28,788	32,340	35,239	37,988	40,970	45,300	50,210	54,265	59,459
Gross fixed capital formation [1]	6,294	8,387	9,298	10,539	11,242	12,321	12,797	14,423	15,777	18,453
1. Railways	164	151	173	181	225	212	228	207	217	228
a) Mobile equipment	40	45	43	45	83	71	69	70	72	74
b) Infra-structure	124	106	130	136	142	141	159	137	145	154
2. Roads	468	762	1,194	1,492	1,798	1,962	2,314	2,489	2,782	3,235
a) Mobile equipment	332	520	847	1,110	1,313	1,374	1,619	1,690	1,959	2,271
b) Infra-structure	136	242	347	382	485	588	695	799	823	965
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	...	...	45	51	60	80	...	...	...	...
Investment in inland transport (1.+2.+3.+4.)	632	913	1,412	1,724	2,083	2,254	2,542	2,696	2,999	3,464

1. Source: OECD Statistical Bulletin.

Table 12. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

THE NETHERLANDS

Millions of florins

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P.[1]	24,200	35,364	42,732	45,288	48,517	52,858	62,154	69,237	74,810	82,270
Gross fixed capital formation [1]	5,046	9,044	10,073	10,911	11,611	12,383	15,480	16,984	18,950	20,990
1. Railways	122	209	124	162	168	136	148	202	203	151
a) Mobile equipment	57	98	42	75	74	55	33	70	65	35
b) Infra-structure	65	111	82	87	94	81	115	132	138	116
2. Roads	525	1,119	1,500	1,819	2,083	2,400	2,945	3,677	3,371	3,559
a) Mobile equipment	332	747	1,085	1,297	1,502	1,751	2,110	2,695	2,344	2,671
b) Infra-structure	193	372	415	522	581	649	835	982	1,027	888
3. Inland water-ways	59	178	184	229	299	308	385	362	320	342
a) Mobile equipment	11	83	69	98	140	139	160	125	70	65
b) Infra-structure	48	95	115	131	159	169	225	237	250	277
4. Secondary and urban railways	...	...	19	9	25	35	46	59	60	41
Investment in inland transport (1.+2.+3.+4.)	706	1,506	1,827	2,219	2,575	2,879	3,524	4,300	3,954	4,093

1. Source: OECD Statistical Bulletin.

Table 13. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

PORTUGAL

Millions of escudos

	1953	1957	1960	1961	1962	1963	1965	1965(2)	1966	1967
G. N. P. [1]	46,633	60,287	72,714	77,208	82,933	89,177	97,448	107,866	117,837	132,786
Gross fixed capital formation [1]	6,823	8,697	12,535	13,512	13,848	15,951	16,587	18,543	22,332	25,605
1. Railways	90	175	197	354	94	275	319	526	318	401
a) Mobile equipment	52	84	65	154	32	97	160	214	125	148
b) Infra-structure	38	91	132	200	62	178	159	312	193	253
2. Roads	670	1,128	1,186	1,315	882	989	316	2,674	2,588	2,072
a) Mobile equipment	490	876	902	1,010	577	669	46	1,815	1,898	1,673
b) Infra-structure	180	252	284	305	305	320	270	859	690	339
3. Inland water-ways	-	-	-	-	-	-	-	23	32	27
a) Mobile equipment	-	-	-	-	-	-	-	23	32	27
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	...	...	368	66	64	54	66	132	132	93
Investment in inland transport (1.+2.+3.+4.)	760	1,303	1,751	1,735	1,040	1,319	700	3,355	3,070	2,593

1. SOURCE : OECD Statistical Bulletin.
2. The figures for 1965 and succeeding years are not comparable with previous data due to a change in the statistical system. The figures given in the above table therefore cannot be included in a time series.

Table 14. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

UNITED KINGDOM

Millions of pounds sterling

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	17,049	22,109	25,742	27,504	28,909	30,719	33,300	35,790	37,985	39,613
Gross fixed capital formation [1]	2,359	3,381	4,120	4,619	4,731	4,906	5,860	6,331	6,686	7,145
1. Railways	52	122	161	142	106	81	90	98	89	72
a) Mobile equipment	36	90	86	74	63	47	47	55	39	31
b) Infra-structure	16	32	75	68	43	34	43	43	50	41
2. Roads	377	584	971	939	1,016	1,223	1,451	1,458	1,493	1,659
a) Mobile equipment	362	545	884	832	885	1,078	1,265	1,238	1,257	1,358
b) Infra-structure	15	39	37	107	131	145	186	220	220	301
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	2	2	10	11	12	15	17	22	20	23
Investment in inland transport (1.+2.+3.+4.)	431	708	1,142	1,092	1,134	1,319	1,558	1,578	1,602	1,754

1. SOURCE : OECD Statistical Bulletin.

Table 15. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

SWEDEN

Millions of Swedish kroner

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	41,123	55,127	66,965	73,029	79,024	86,020	95,764	105,587	115,006	123,770
Gross fixed capital formation [1]	8,572	11,354	14,995	16,832	18,318	20,292	22,795	25,124	27,782	30,190
1. Railways	309	274	322	291	206	240	326	206	206	247
a) Mobile equipment	151	137	157	147	141	130	123	109	113	125
b) Infra-structure	158	137	165	144	65	110	103	97	93	122
2. Roads	1,836	2,487	3,328	3,659	3,932	4,594	2,183			
a) Mobile equipment	1,337	1,878	2,311	2,662	2,895	3,379	23			
b) Infra-structure	499	609	1,017	997	1,037	1,215	2,160	945	836	920
3. Inland water-ways	-	-	1.0	1.2	0.7	-	-	-	-	-
a) Mobile equipment	-	-	0.2	0.4	-	-	-	-	-	-
b) Infra-structure			0.8	0.8	0.7	-	-	-	-	-
4. Secondary and urban railways	...	...	91	97	9	...	...	...	...	...
Investment in inland transport (1. +2. +3. +4.)	2,145	2,761	3,742	4,048	4,148	4,834	2,509			

1. SOURCE : OECD Statistical Bulletin.

Table 16. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

SWITZERLAND

Millions of Swiss francs

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	24, 090	30, 870	37, 055	41, 490	46, 050	50, 370	55, 540	59, 985	64, 625	68, 940
Gross fixed capital formation [1]	4, 245	6, 545	8, 655	10, 830	12, 640	14, 400	16, 390	16, 600	17, 080	17, 485
1. Railways	112	182	220	225	268	305	515	388	388	404
a) Mobile equipment	42	90	113	112	128	129	322	174	175	177
b) Infra-structure	70	92	107	113	140	176	193	214	213	227
2. Roads	809	1, 165	1, 401	1, 833	2, 389	2, 650	2, 934	2, 845	3, 068	3, 084
a) Mobile equipment	517	721	1, 049	1, 341	1, 648	1, 638	1, 748	1, 723	1, 869	1, 878
b) Infra-structure	292	444	352	492	741	1, 022	1, 186	1, 122	1, 199	1, 206
3. Inland water-ways	3	26	15	3	25	26	19	27	30	28
a) Mobile equipment	3	26	16	3	10	13	7	5	8	6
b) Infra-structure	-	-	-	-	15	13	12	22 [2]	22 [2]	22 [2]
4. Secondary and urban railways	18	32	49	48	72	82	155	161	104	82
Investment in inland transport (1. +2. +3. +4.)	942	1, 405	1, 685	2, 109	2, 754	3, 073	3, 623	3, 421	3, 590	3, 598

1. SOURCE : OECD Statistical Bulletin.

2. Yearly average in a three-year period.

Table 17. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

TURKEY

Millions of Turkish pounds

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	16,821	30,529	48,963	49,081	55,248	63,253	68,035	73,209	85,689	95,373
Gross fixed capital formation [1]	...	4,017	7,779	7,368	8,450	10,142	10,510	11,950	15,098	16,847
1. Railways	34	36	93	137	132	163	84	255	371	414
a) Mobile equipment	17	4	10	81	44	75	10	145	54	142
b) Infra-structure	17	32	83	56	88	88	74	110	317	272
2. Roads	373	555	1,607	1,535	1,581	1,502	1,614	1,755	2,025	2,490
a) Mobile equipment	149	49	878	716	808	652	787	864	926	1,102
b) Infra-structure	224	506	729	819	773	850	827	891	1,099	1,388
3. Inland water-ways	-	-	-	-	-	-	-	-	-	-
a) Mobile equipment	-	-	-	-	-	-	-	-	-	-
b) Infra-structure	-	-	-	-	-	-	-	-	-	-
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1.+2.+3.+4.)	407	591	1,700	1,672	1,713	1,665	1,698	2,010	2,396	2,904

1. SOURCE : OECD Statistical Bulletin.

Table 18. INVESTMENT IN INLAND TRANSPORT, GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

YUGOSLAVIA

Millions of DIN

	1953	1957	1960	1961	1962	1963	1964	1965	1966	1967
G. N. P. [1]	...	...	32,310	38,350	43,850	53,040	69,570	91,020	113,385	
Gross fixed capital formation [1]	...	...	9,362	11,660	13,331	15,848	20,378	21,788	25,220	
1. Railways	157	363	485	558	416	384	712	934	1,057	979
a) Mobile equipment	24	192	192	265	177	148	264	301	407	399
b) Infra-structure	133	171	293	293	239	236	448	633	650	580
2. Roads	125	207	546	567	567	641	915	568	569	724
a) Mobile equipment [2]	22	89	196	151	148	232	253	191	372	421
b) Infra-structure	103	118	350	416	419	409	662	377	224	303
3. Inland water-ways	5	27	47	50	78	44	45	57	53	43
a) Mobile equipment	5	26	40	42	70	40	39	42	34	28
b) Infra-structure	-	1	7	8	8	4	6	15	19	15
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1.+2.+3.+4.)	287	597	1,078	1,175	1,061	1,069	1,672	1,559	1,706	1,746

1. SOURCE : OECD Statistical Bulletin.

2. Public transport vehicles only.

REPORT OF THE COMMITTEE OF DEPUTIES ON TRAFFIC AND INVESTMENT TRENDS IN 1968

[CM(69)20]

CHAPTER I - GENERAL

This report on traffic and investment trends in 1968 comprises three chapters providing detailed information on transport by railway, road and inland waterway, preceding a first chapter summarising the main developments.

As in previous years, the report contains a summary table of transport investment, equipment and infrastructure together with basic economic data see Table 1 ; but this is the first time that this table has been enlarged in order to reflect more detailed information concerning the breakdown of investment in the different transport sectors see Tables 1 a), b), and c) .

The main features for the year 1968 are as follows:

A. RAILWAYS

Traffic

The fall in passenger traffic continued but was smaller than in recent years - 2.0 per cent in the number of passengers and - 1.2 per cent in passenger-kilometres - probably helped by general economic recovery and improvements particularly in the quality of long distance services. Passenger-kilometres actually increased in 7 of the 18 countries.

The economic recovery in 1968 was reflected, for goods traffic, in a reversal of the downward trend of recent years. There were increases of 4.2 per cent in tons carried and 3.2 per cent in ton-kilometres and ton-kilometres increased in 13 of the 18 countries.

Total passenger-kilometres and goods ton-kilometres for the ECMT countries though below the peaks of 1964 and 1965 were still 16 per cent and 27 per cent respectively higher than they were 15 years ago..

Rolling stock

At the end of 1968 the total number of locomotives was 33,027 compared with 35,529 in 1967 and 63,437 in 1954. When related to the trends of output in passenger-kilometres and ton-kilometres noted above, the reductions in the number of locomotives of 7 per cent from 1967 and 48 per cent from 1953 underline the favourable results of rationalisation of motor power through electrification and dieselisation.

The number of goods wagons owned by the railways, other than in Great Britain, fell during the course of 1968 from 1,023,000 to 969,000. As compared with 1953, there were 133,000 fewer open wagons, 39,000 fewer covered wagons but 38,000 more special wagons of various sorts. The number of wagons belonging to British Railways fell by another 28,000 to 430,000 compared with 1,107,000 in 1953.

The number of privately owned wagons, however, stands at 163,000 against 112,000 in 1953 for countries excluding Austria.

Infrastructure

The electrified network increased in 1968 by 1,478 kilometres, and by further 586 kilometres in the first 10 months of 1969 to a total of 50,508 kilometres. Established programmes for electrification envisage a further increase of nearly 3,100 kilometres by 1973.

Further progress has been reported in measures for improvement and cost-reduction such as installations of welded rails, centralisation of signalling installations, modernisation or replacement of level crossings, improvements in urban networks and inauguration of container terminals.

Energy consumption

Energy consumption for 1968 expressed in coal-equivalent units was only 44 per cent of that in 1953, despite the increase in the volume of traffic.

B. ROAD TRANSPORT

Traffic

Twelve countries provided some information on road transport activities, but the diversity of the information provided and the many gaps serve to underline the importance of the investment Committee's work in trying to promote the development of adequate statistics on what is now the principal mode of transport.

Vehicles

The strong upward trend in the total number of vehicles on the road continued but, from the evidence from 13 countries, it appears that the rate of growth was once again slightly lower: 6.7 per cent against 7.5 per cent in 1967. Growth of goods vehicles however was rather faster in 1968.

There was little change in the average carrying capacity of goods vehicles.

The numbers of two-wheeled vehicles continued to fall, with a 10 per cent reduction in heavy and a small reduction in light motor cycles.

The road system

The length of motorways in service for countries other than Yugoslavia increased in 1968 by 1,111 kilometres, including 350 kilometres in Germany, 293 kilometres in Italy and 161 kilometres in France, compared with 998 kilometres in 1967.

The International Network

As last year, the report includes four tables relating to the International Network [Chapter III, Tables 7 to 10] and these bring out the very substantial progress made in 1968.

On the information received from 15 countries the length of the International Network increased over the year by 1969 kilometres as against 444 kilometres in 1967 for the same countries. For the same countries, the length of route considered to be of adequate capacity increased from 74 per cent to 77 per cent, and the degree of standardization from 66 to 65 per cent.

Investment

For the 15 countries which have provided information aggregate investment in the road networks increase slightly (after a large increase in 1967), but forecasts for 1969 show an increase of 25 per cent over expenditure in 1968.

Detailed information is given on current work in hand on the various E routes.

C. INLAND WATERWAYS

In 1968 total tonnage carried rose by 7.1 per cent compared with 5.3 per cent in 1967 and 3.5 per cent in 1966. This brings the increase since 1962 to 38 per cent. Over this period international traffic has grown by 65 per cent and internal traffic by 26 per cent.

The report gives details of traffic on the various parts of the European waterways.

Evolution of the fleet

The net results of relatively small increases in some countries' fleets and decreases in others is that the aggregate capacity of the fleet was virtually unchanged in 1968, though the number of vessels fell by just over 1 per cent.

Infrastructure

Details are given in Part C of Chapter IV of progress in improvements of links of European interest. The year was notable for the number of important developments, including the opening for service of a number of major new works and improvements.

The Dunkirk-Denain section was brought into service in 1968. In the Scheldt-Rhine link a new set of locks was opened at the Volkerak dyke. Construction work between Neuburgweier-Lauterbourg and Saint Goar was stepped up. In the Rhone-Rhine link the Kembs-Niffer-Mulhouse section is now completed.

Work on the Rhine-Main-Danube link is

making satisfactory progress, particularly the canal section between Bamberg and Forchheim which has been opened to navigation. Improvements and studies relating to other links of interest to Europe are still proceeding.

Pipelines

Transport by pipeline continues to show strong growth, and the report gives details of traffic trends and the development of pipeline facilities in the various countries.

Activity at major ports

Table 8 gives figures to activity at major seaports. In all countries, with the exception of Italy, traffic increased in 1968.

Table 1. INLAND TRANSPORT INVESTMENT EQUIPMENT AND INFRASTRUCTURE

National currency units (millions) For Ireland (thousands)

COUNTRY	YEAR	GROSS NATIONAL PRODUCT (AT CURRENT PRICES)[1]	GROSS FIXED CAPITAL FORMATION[1]	RAILWAYS			LOCAL RAILWAYS AND URBAN LINES	ROAD TRANSPORT				INLAND WATERWAYS			INVESTMENT IN INLAND TRANSPORT (5+6+10+13)
				ROLLING STOCK	INFRASTRUCTURE	TOTAL (3+4)		VEHICLES		INFRASTRUCTURE	TOTAL (7+8+9)	VESSELS	INFRASTRUCTURE	TOTAL (11+12)	
								COMMERCIAL VEHICLES	OTHER VEHICLES[2]						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Germany	1966	480,800	121,900	699	1,106	1,805	703	3,580	10,003	7,855	21,438	81	135	216	24,162
	1967	485,100	110,400	532	1,560	2,092	821	3,103	9,137	8,222	20,462	53	185	238	23,613
	1968	528,800	121,900	576	1,321	1,897	844	3,476	10,310	...	...	72	171	243	...
Austria	1966	262,090	68,530	676	726	1,402	207	1,698	6,506	2,841	11,045	-	46	46	12,700
	1967	279,130	69,780	1,329	894	2,223	190	1,396	6,528	3,393	11,317	-	33	33	13,763
	1968	295,100	69,500	1,135	1,007	2,142	215	1,361	7,843	3,473	12,677	-	55	55	15,089
Belgium	1966	916,300	196,600	2,692	2,363	5,055	557	3,682	21,686	8,584	33,952	842	2,185	3,027	42,591
	1967	977,100	212,400	1,753	2,549	4,302	911	3,527	22,317	11,200	37,044	450	2,032	2,482	44,739
				1,475	3,143	4,618	1,280	3,623	25,475	14,994	44,092	352	2,140	2,492	52,482
Denmark	1966	77,076	16,339	102	92	194	60	221	2,225	1,758	3,804	-	-	-	4,058
	1967	84,259	18,000	100	89	189	65	213	2,288	1,690	4,191	-	-	-	4,445
	1968			107	101	208	54	251	2,387	2,113	4,751	-	-	-	5,013
Spain	1966	1,477,400	334,800	4,266	4,755	9,021	1,394	22,554	34,576	7,386	64,516	-	-	-	74,931
	1967	1,616,500	346,800	3,098	5,129	8,227	1,224	24,027	38,808	8,686	71,521	-	-	-	80,972
	1968			2,996	7,082	10,078	2,660	23,118	41,285	14,177	78,575	-	-	-	91,313
France	1966	500,530	109,010	1,124	842	1,966	...	4,000	10,100	3,900	18,000	29	274	303	20,269
	1967	537,710	117,700	1,161	866	2,027	...	4,100	11,100	4,800	20,000	40	311	351	22,378
	1968			872	805	1,677	...	4,600	12,400	5,600	22,600	16	306	322	24,599
Greece	1966	197,353	48,774	234	110	344	1	...	...	1,790	...	-	-	-	...
	1967	213,386	47,770	365	72	437	5	...	...	1,925	...	-	-	-	...
	1968			303	100	403	60	...	...	2,961	...	-	-	-	...
Ireland	1966	1,048,200	195,000	1,303	821	2,124	-	9,491	26,887	8,189	44,567	-	55	55	46,746
(in thousands units)	1967	1,126,000	215,000	391	914	1,305	-	9,511	26,399	8,354	44,264	-	60	60	45,629
	1968			...	...	...	-	...	...	...	...	-	...	...	...
Italy	1966	38,493,000	7,080,000	66,550	113,379	179,929	3,383	191,000	885,000			754	148	902	
	1967	41,849,000	7,990,000	39,653	102,273	141,926	1,749	250,000	1,008,000			917	129	1,046	
	1968			24,570	99,019	123,589	...	289,000	1,126,000			996	...	...	
Luxembourg	1966	34,665	9,805	158	60	218	-	213	581	243	1,037	-	188	188	1,443
	1967	35,412	8,883	92	42	134	-	214	571	209	994	-	62	62	1,190
	1968			39	51	90	-	200	586	240	1,026	-	15	15	1,131
Norway	1966	54,679	15,944	72	145	217	-	585	1,273	896	2,754	-	-	-	2,971
	1967	60,081	18,534	74	154	228	-	779	1,552	1,035	3,366	-	-	-	3,594
	1968	64,434	17,174	77	155	232	-	825	1,672	1,099	3,596	-	-	-	3,828
Netherlands	1966	74,810	18,950	65	138	203	60	655	1,732	1,034	3,421	71	75	146	3,830
	1967	82,270	20,990	35	116	151	41	608	2,071	881	3,560	74	86	160	3,912
	1968			31	90	121	35	759	2,453	1,121	4,333	48	91	139	4,628
Portugal	1966	117,837	22,332	125	193	318	132	712	1,092	690	2,494	32	-	32	2,976
	1967	132,786	25,605	148	253	401	96	564	1,010	399	1,973	27	-	27	2,497
	1968	...	23,037	235	170	405	58	...	...	300	...	...	-	...	...
United Kingdom	1966	37,985	6,686	45	54	99	12	306	950	235	1,491	-	-	-	1,602
	1967	39,619	7,145	39	46	85	14	311	1,047	299	1,657	-	-	-	1,756
	1968			31	50	81	19	345	1,159	351	1,855	-	-	-	1,955
Sweden	1966	115,006	27,782	113	94	207	-	951	3,127	1,696	5,774	-	-	-	5,981
	1967	123,770	30,190	125	122	247	-	1,023	2,832	1,850	5,705	-	-	-	5,952
	1968			177	143	320	-	866	3,599	1,990	6,455	-	-	-	6,775
Switzerland	1966	64,625	17,080	175	213	388	104	361	1,509	1,199	3,069	8	22	30	3,591
	1967	68,825	17,495	177	227	404	82	317	1,560	1,207	3,084	6	22	28	3,598
	1968	74,040	18,430	167	219	386	105	352	1,710	1,278	3,340	2	45	47	3,878
Turkey	1966									1,180[a]		-	-	-	
	1967									1,351[a]		-	-	-	
	1968									1,350[a]		-	-	-	
Yugoslavia	1966														
	1967														
	1968														

1. Source : OECD Statistical Bulletin.
2. Expenditure on the purchase of private cars and motor cycles has been included in this column in order to ensure a certain degree of comparability in the statistical data between countries, although that part of this expenditure should be classified under consumer goods. However a classification between consumption or investment in this sector has been indicated as regards the countries which gave this information (see table 1b) - see also footnotes at the end of tables 1a and 1c.

- NIL.
... Figures not available.
a Only inter-urban roads.

Table 1a. BREAKDOWN OF RAILWAY INVESTMENT

Millions of national currency units (For Ireland, thousands of units)

COUNTRY	YEAR	RAILWAYS OF GENERAL INTEREST										SECONDARY RAILWAYS	METROPOLITAN RAILWAYS AND TRAM-WAYS		TOTAL FOR SECONDARY AND LOCAL RAILWAYS
		ROLLING STOCK					INFRASTRUCTURE (PERMANENT WAY INSTALLATIONS)				TOTAL FOR RAILWAYS OF GENERAL INTEREST		ROLLING STOCK	INFRASTRUCTURE	
		NEW ROLLING STOCK			OTHER INVESTMENT	SUB-TOTAL (1+2+3+4)	PERMANENT WAY	ELECTRIFICATION	OTHER INSTALLATIONS	SUB-TOTAL (6+7+8)					
		PASSENGER STOCK	WAGONS	TRACTIVE STOCK											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Austria	1966	327.1	121.5	133.2	94.1	675.9	529.7	126.7	69.5	725.9	1,401.8	...	123.4	83.3	206.7
	1967	390.4	591.7	245.3	102.2	1,329.6	681.4	93.8	118.6	893.8	2,223.4	...	127.6	62.2	189.8
	1968	247.0	394.1	416.3	77.4	1,134.8	654.9	216.4	136.2	1,007.5	2,142.3	...	150.1	65.3	215.4
Belgium	1966	356.0	310.0	1,876.0	150.0	2,692.0	1,165.0	506.0	692.0	2,363.0	5,055.0	23.0	86.0	448.0	557.0
	1967	755.0	397.0	486.0	115.0	1,753.0	1,348.0	383.0	818.0	2,549.0	4,302.0	15.0	18.0	878.0	911.0
	1968	53.0	1,064.0	142.0	216.0	1,475.0	1,471.0	670.0	1,002.0	3,143.0	4,618.0	18.0	30.0	1,232.0	1,280.0
Denmark [1]	1966	72.1	20.8	6.8	1.9	101.6	71.0	-	21.0	92.0	193.6	5.3	-	55.0	60.3
	1967	69.3	14.8	13.6	2.6	100.3	62.0	-	27.0	89.0	189.3	7.9	-	57.0	64.9
	1968	71.1	14.4	20.9	0.2	106.6	63.0	-	38.0	101.0	207.6	7.6	-	46.0	53.6
France	1966	225.5	364.5	388.7	145.3	1,124.0	283.8	199.6	358.2	841.6	1,965.6	...	...	...	...
	1967	222.6	400.7	381.3	155.8	1,160.4	262.0	174.3	430.0	866.3	2,026.7	...	...	...	...
	1968	162.0	275.6	328.8	105.2	871.6	239.0	167.9	398.2	805.1	1,676.7	...	...	...	...
Germany	1966	80.1	314.3	297.6	6.9	698.9	165.8	132.8	807.2	1,105.8	1,804.7	108.0	101.1	493.6	702.7
	1967	125.6	137.9	250.8	17.6	531.9	224.7	149.9	1,185.9	1,560.5	2,092.4	102.2	101.6	617.0	820.8
	1968	119.9	176.5	269.8	10.0	576.2	229.6	110.4	981.1	1,321.1	1,897.3	81.6	105.5	656.7	843.8
Greece	1966	30.0	107.8	94.6	1.1	233.5	104.3	-	5.9	110.2	343.7	...	0.3	0.4	0.7
	1967	98.6	230.3	34.2	1.7	364.8	66.4	-	5.7	72.1	436.9	...	0.3	4.9	5.2
	1968	23.3	102.4	58.4	118.9	303.0	73.1	-	27.2	100.3	403.3	...	54.2	6.1	60.3
Ireland (thousands of units)	1966	...	...	...	...	1,303.0	821.0	-	-	821.0	2,124.0	-	-	-	-
	1967	...	...	...	...	391.0	914.0	-	-	914.0	1,305.0	-	-	-	-
	1968	...	...	...	...	...	...	-	-	...	...	-	-	-	-
Italy	1966	11,199.0	27,767.0	16,261.0	11,323.0	65,550.0	103,991.0 [2]	9,382.0	-	113,379.0	179,929.0	2,786.0	...	597.0	3,383.0
	1967	15,989.0	11,395.0	7,423.0	4,846.0	39,653.0	93,003.0 [2]	9,270.0	-	102,273.0	141,926.0	1,303.0	...	446.0	1,749.0
	1968	7,561.0	6,427.0	4,914.0	5,668.0	24,570.0	87,378.0 [2]	11,641.0	-	99,019.0	123,589.0	2,582.0 [3]	...	...	...
Luxembourg	1966	72.7	77.8	-	7.5	158.0	46.3	-	13.9	60.2	218.2	-	-	-	-
	1967	46.3	45.0	-	1.4	92.7	30.0	-	11.7	41.7	134.4	-	-	-	-
	1968	14.3	24.1	-	-	38.4	43.6	-	7.7	51.3	89.7	-	-	-	-
Netherlands	1966	31.0	17.0	0	17.0	65.0	102.0	8.0	28.0	138.0	203.0	-	6.0	54.0	60.0
	1967	13.0	5.0	0	17.0	35.0	88.0	7.0	21.0	116.0	151.0	-	10.0	31.0	41.0
	1968	18.0	3.0	-	10.0	31.0	74.0	3.0	13.0	90.0	121.0	-	5.0	30.0	35.0
Norway	1966	17.9	32.6	21.6	-	72.1	95.8	29.0	19.8	144.6	216.7	-	-	-	-
	1967	19.5	33.1	21.3	-	73.9	105.5	28.0	20.9	154.4	228.3	-	-	-	-
	1968	19.9	22.8	34.5	-	77.2	101.7	28.8	24.0	154.5	231.7	-	-	-	-
Portugal	1966	...	...	...	...	125.0	...	...	...	193.0	318.0	...	43.0	89.0	132.0
	1967	...	...	...	...	148.0	...	...	...	253.0	401.0	...	47.0	49.0	96.0
	1968 [3]	166.0	21.0	48.0	-	235.0	123.0	16.0	31.0	170.0	405.0	20.0	28.0	10.0	58.0
Spain	1966	1,339.0	993.0	1,862.0	72.0	4,266.0	3,306.0	620.0	829.0	4,755.0	9,021.0	597.0	217.0	580.0	1,394.0
	1967	1,188.0	374.0	1,375.0	161.0	3,098.0	2,981.0	544.0	1,604.0	5,129.0	8,227.0	452.0	250.0	522.0	1,224.0
	1968	1,559.0	478.0	898.0	61.0	2,996.0	4,531.0	617.0	1,934.0	7,082.0	10,078.0	346.0	1,120.0	1,194.0	2,660.0
Sweden	1966	16.6	49.9	32.2	14.6	113.3	52.3	8.7	32.4	93.4	206.7	-	-	-	-
	1967	49.3	38.1	23.0	14.3	124.7	78.0	11.9	32.0	121.9	246.6	-	-	-	-
	1968	74.3	41.4	34.8	26.6	177.1	88.3	19.7	34.9	142.9	320.0	-	-	-	-
Switzerland	1966	84.0	30.5	60.3	-	174.8	92.2	36.8	83.8	212.8	387.6	76.3 [4]	22.1	5.9	104.3
	1967	64.1	35.0	78.3	-	177.4	91.6	43.0	92.3	226.9	404.3	46.8 [4]	32.2	3.1	82.1
	1968	53.3	35.8	77.7	-	166.8	87.2	35.0	96.7	218.9	385.7	62.7 [4]	39.6	2.4	104.7
United Kingdom	1966	10.7	5.2	20.6	8.2	44.7	33.6	7.7	13.2	54.5	99.2	-	0.2	11.4	11.6
	1967	10.9	7.7	7.8	12.7	39.1	31.8	1.5	12.3	45.6	84.7	-	2.3	11.3	13.6
	1968	11.6	7.5	4.2	7.2	30.5	34.0	1.6	14.6	50.2	80.7	-	5.3	14.0	19.3

1. Figures for this country correspond to the financial year beginning 1st April of the reference year and ending 31st March of the following year.
2. Permanent way and allied installations.
3. Provisional figures.
4. Not including telpher railways.

Table 1b. BREAKDOWN OF INVESTMENT IN THE ROAD SECTOR

Millions of national currency units (For Ireland, thousands of units)

COUNTRY	YEAR	VEHICLES					INFRASTRUCTURE						TOTAL INVESTMENT IN ROAD SECTOR
		UTILITY VEHICLES		PRIVATE CARS AND MOTOR CYCLES		SUB-TOTAL (1+2+3)	ROADS MAINTENED BY THE STATE		ROADS MAINTENED BY REGIONAL AUTHORITIES	ROADS MAINTENED BY LOCAL AUTHORITIES	OTHER ROADS	SUB-TOTAL (6 TO 10)	
		FOR GOODS TRANSPORT	BUSES, COACHES AND TROLLEY BUSES	TOTAL EXPENDITURE	INCLUDING PART TO BE CONSIDERED AS INVESTMENT		HIGHWAYS	NATIONAL OR FEDERAL ROUTES					
		1	2	3	4	5	6	7	8	9	10	11	12
Austria	1966	1,470.0	228.0	6,506.0	2,106.0	8,204.0	1,077.9	1,763.0	...	...	...	2,840.9	11,045.0
	1967	1,191.0	205.0	6,528.0	1,772.0	7,924.0	1,322.3	2,070.8	...	...	...	3,393.1	11,317.0
	1968	1,155 [1]	206 [1]	7,843 [1]	2,193 [1]	9,204 [1]	1,503.1	1,970.1	...	...	...	3,473.2	12,677.0
Belgium	1966	3,307.0	375.0	21,686.0	7,255.0	25,368.0	-	5,914.0	2,670.0	-	-	8,584.0	33,952.0
	1967	3,171.0	356.0	22,317.0	7,357.0	25,844.0	-	7,874.0	3,326.0	-	-	11,200.0	37,044.0
	1968	3,292.0	331.0	25,475.0	8,272.0	29,098.0	-	11,000.0	3,994.0	-	-	14,994.0	44,092.0
Denmark	1966	194.4	26.5	2,224.6	...	2,445.5	220.0	127.0	350.0	661.0	-	1,358.0	3,804.0
	1967	188.7	24.2	2,287.9	...	2,500.8	330.0	138.0	443.0	779.0	-	1,690.0	4,191.0
	1968	229.5	21.5	2,387.4	...	2,638.4	436.0	139.0	542.0	996.0	-	2,113.0	4,751.0
France	1966	3,800.0	200	10,100.0	...	14,100.0	800.0	900.0	800.0	1,300.0	100	3,900.0	18,000.0
	1967	3,900.0	200	11,100.0	...	15,200.0	900.0	1,100.0	1,000.0	1,600.0	200	4,800.0	20,000.0
	1968	4,400.0	200	12,400.0	...	17,000.0	1,100.0	1,100.0	1,100.0	2,000.0	300	5,600.0	22,600.0
Germany	1966	3,333.9	246.3	10,003.0	5,247.7	13,583.2	868.7	1,810.1	1,673.9	3,501.8	-	7,854.5	21,438.0
	1967	2,862.7	240.6	9,136.7	4,782.1	12,240.0	1,221.0	2,251.1	1,022.6	3,727.5	-	8,222.2	20,462.0
	1968	3,185.8	290.8	10,309.7	5,695.7	13,786.3	1,058.7	2,317.6	...	...	-	...	...
Greece	1966	...	...	...	...	...	-	1,116.0	674.0	-	-	1,790.0	...
	1967	...	...	...	...	...	-	1,200.0	725.0	-	-	1,925.0	...
	1968	...	...	...	...	...	-	1,545.0	1,416.0	-	-	2,961.0	...
Ireland (thousands of units)	1966	9,491.0		26,887.0	7,788.0	36,378.0	-	-	-	8,124.0	65	8,189.0	44,567.0
	1967	9,511.0		26,399.0	8,129.0	35,910.0	-	-	-	8,275.0	79	8,354.0	44,264.0
	1968	...		...	...	...	-	-	-	...	...	...	...
Italy	1966	175,000.0	16,000.0	885,000.0	...	1,076,000.0							
	1967	230,000.0	20,000.0	1,008,000.0	...	1,258,000.0							
	1968	265,000.0	24,000.0	1,126,000.0	...	1,415,000.0							
Luxembourg	1966	180.0	3.0	581.0	...	794.1	-	236.0	-	7.0	-	243.0	1,037.0
	1967	180.0	34.0	571.0	...	785.0	-	204.0	-	5.0	-	209.0	994.0
	1968	170.0	30.0	585.8	...	785.8	-	233.0	-	7.0	-	240.0	1,026.0
Netherlands	1966	605.0	50.0	1,732.0	1,032.0	2,387.0	341.0		109.0	584.0		1,034.0	3,421.0
	1967	546.0	62.0	2,071.0	1,237.0	2,679.0	419.0		135.0	327.0		881.0	3,560.0
	1968	704.0	55.0	2,453.0	1,344.0	3,212.0	536.0		149.0	436.0		1,121.0	4,333.0
Norway	1966	510.0	75.0	1,273.0	356.0	1,858.0	-	534.0	327.0	35.0		896.0	2,754.0
	1967	687.0	92.0	1,552.0	435.0	2,331.0	-	605.0	393.0	37.0		1,035.0	3,366.0
	1968	737.0	88.0	1,672.0	457.0	2,497.0	-	636.0	417.0	46.0		1,099.0	3,596.0
Portugal	1966	712.0		1,092.0	53 [3]	1,804.0	...	...	...	...	...	690.0	2,494.0
	1967	564.0		1,010.0	48 [3]	1,574.0	...	...	...	...	...	399.0	1,973.0
	1968	...		...	...	...	...	...	...	...	...	300 [1]	...
Spain	1966	20,260.0	2,294.0	34,576.0	...	57,130.0	756.0	6,630.0	-	-	-	7,386.0	64,516.0
	1967	21,160.0	2,867.0	38,808.0	...	62,835.0	1,165.0	7,521.0	-	-	-	8,686.0	71,521.0
	1968	20,381.0	2,737.0	41,285.0	...	64,403.0	2,048.0	9,124.0	3,000.0 [1]	-	-	14,172.0	78,376.0
Sweden	1966	823.0	128.0	3,127.0	762.0	4,078.0	106.0	766.0	-	782.0	42.0	1,696.0	5,774.0
	1967	727.0	296 [5]	2,832.0	686.0	3,855.0	156.0	745.0	-	914.0	35.0	1,850.0	5,705.0
	1968	779 [1]	87 [1]	3,599.0	859.0	4,465.0	137.0	802.0	-	1,018.0	33.0	1,990.0	6,455.0
Switzerland	1966	296.4	64.0	1,509.3	...	1,869.7	...	...	...	...	...	1,199.2	3,069.0
	1967	266.9	50.7	1,560.2	...	1,877.8	...	...	...	...	...	1,206.5	3,084.0
	1968	310.8	41.4	1,709.8	...	2,062.0	...	...	...	...	...	1,278.0	3,340.0
Turkey	1966						...	970	210				
	1967						...	1,105	246				
	1968						...	1,200	150				
United Kingdom	1966	277.0	29.0	950.0	152.0	1,256.0	123 [4]		112 [4]			235.0	1,491.0
	1967	283.0	28.0	1,047.0	156.0	1,358.0	139 [4]		160 [4]			299.0	1,657.0
	1968	315.0	30.0	1,159.0	160.0	1,504.0	156 [4]		195 [4]			351.0	1,855.0
Yugoslavia	1966												
	1967												
	1968												

1. Provisional figures.
2. The figures concerning infrastructure expenditure correspond to the financial year beginning 1st April of the reference year and ending 31st March of the following year.
3. Taxis and cars for hire only.
4. Contrary to the figures given in previous annual reports, these figures also include the value of land.
5. Including investment necessitated by the changeover to driving on the right.

Table 1c. BREAKDOWN OF INVESTMENT IN THE INLAND WATERWAYS

Million of national currency units
(For Ireland thousands of units)

COUNTRY	YEAR	CRAFT			INFRASTRUCTURE			TOTAL INVESTMENT (AFFECTING NAVIGATION)
		BARGES AND PUSHERS	OTHER CRAFT	SUB-TOTAL (1+2)	CLASS I, II AND III WATER-WAYS[1]	CLASS IV, V AND VI WATER-WAYS[2]	SUB-TOTAL (4+5)	
		1	2	3	4	5	6	7
Austria.....	1966	...	...	...	-	46.2	46.2	46.2
	1967	...	...	...	-	32.7	32.7	32.7
	1968	...	...	...	-	55.2	55.2	55.2
Belgium	1966	...	...	842[3]	...	...	2,185	3,027
	1967	...	...	450[3]	...	...	2,032	2,482
	1968	...	...	352[3]	...	...	2,140	2,492
France	1966	12.4	16.9	29.3	152	122	274	303.3
	1967	17.8	22.3	40.1	162	149	311	351.1
	1968	10.0	5.7	15.7	176	130	306	321.7
Germany	1966	...	...	81.1	...	...	135.2	216.3
	1967	...	...	53.2	...	...	185.2	238.4
	1968	...	...	72.4	...	...	171.2	243.6
Ireland	1966	-	-	-	...	...	55	55
(thousands of	1967	-	-	-	...	...	60	60
units)	1968	-	-	-	...	...	...	...
Italy	1966	...	...	754	148	-	148	902
	1967	...	...	917	129	-	129	1,046
	1968	...	...	996	...	-	...	...
Luxembourg ...	1966	-	-	-	-	188	188	188
	1967	-	-	-	-	62	62	62
	1968	-	-	-	-	15	15	15
The Netherlands	1966	1	70	71	5[4]	70[4]	75[4]	146
	1967	16	58	74	6[4]	80[4]	86[4]	160
	1968	10	38	48	7[4]	84[4]	91[4]	139
Portugal	1966	32	-	32	-	-	-	32
	1967	27	-	27	-	-	-	27
	1968	...	-	...	-	-	-	...
Sweden	1966	...	...	8	...	...	21.9[5]	29.9
	1967	...	...	5.8	...	...	21.9[5]	27.7
	1968	...	...	2.4	...	...	44.6[5]	47.0
Yugoslavia.....	1966							
	1967							
	1968							

1. Waterways for craft carrying loads of up to 1,000 tons.
2. Waterways for craft carrying loads of over 1,000 tons.
3. These figures are intended to give a general idea only.
4. Figures for waterways maintained by the State.
5. Net amounts (new investment less assets written off).

CHAPTER II

RAILWAYS

Foreword

1. This report is based on the data supplied by Member countries for the year 1968. It also outlines certain trends in 1969 and, where possible, draws comparisons with the year 1953 to mark the 15th year since the foundation of the ECMT. Regarding such comparisons, however, account should be taken of the fact that the methods of compiling statistics were sometimes changed during the period referred to.

2. Unless otherwise stated, the figures given are for the 18 Member countries combined*; figures shown in brackets are for the six Member countries of the EEC.

A. TRAFFIC TRENDS

I. PASSENGERS

1. Passenger traffic again fell in 1968 but (as shown in Table 1) only by 2 per cent (2.8 per cent) for passengers carried and 1.2 per cent (0.7 per cent) for passenger - km. This somewhat better trend is doubtless due not only to improved economic conditions, but in many cases to a better standard of service, such as faster and more comfortable trains - especially on long-distance routes - special terms for certain categories of passengers, more intensive publicity and similar measures. The drift from rail to private cars went on in most countries, however, and time will show whether the action now being taken in over-crowded and over-industrialised areas will bring about the revival of rail passenger traffic. In many cases, competition from air transport also had a damaging effect on long distance rail traffic, but the average distance travelled per passenger was in a good many cases still sizeably longer than in 1953, as can be seen in Table 3.

2. Though the number of passengers carried did indeed decline by 3.7 per cent (8 per cent) as compared with 1953, the number of passenger - km was 16.4 per cent (20.5 per cent) higher, and was thus nearly up to as satisfactory a level as in the years 1963 - 1965.

3. The figures for the year 1968 are shown in Annex 3 which also indicates the trend during the early months of 1969.

II. FREIGHT

1. The economic upturn in 1968 led to an increase of 4.2 per cent (4.9 per cent) for tons carried and 3.2 per cent (3.4 per cent) for ton-kilometres (see Table 2, which also gives separate figures for each country). Only Austria, Denmark, Greece and Yugoslavia recorded a decline - and even so of insignificant size both for tons carried and ton-km. As in the case of passenger traffic, the average length of haul for goods traffic also increased in certain countries (see Table 3).

2. As compared with 1953, tonnage carried increased by about 14.9 per cent (25 per cent) and ton-km by 27.2 per cent (37.2 per cent). Thus, the overall results were up to the level reached in 1963 - 1964, as can be seen in Annex 1. The increase chiefly affected the EEC countries but, of the other countries, only the United Kingdom recorded a fairly substantial decline.

3. The trend in 1968 is shown in Annex 3 together with some information on the trend during the early months of 1969.

* Except Greece in most cases.

Table 1. PASSENGER TRAFFIC

	PASSENGERS CARRIED			PASSENGER-KM		
	1968 (million)	1968-67 (%)	1953 (million)	1968 (million)	1968-67 (%)	1953 (million)
Germany	932.3	- 0.5	1,236.0	34,137	+ 3.6	31,679
Belgium	203.2	- 4.5	227.0	7,330	- 4.2	7,528
France	578.5	- 7.3	495.8	35,873	- 6.5	25,945
Italy	323.7	- 0.2	390.2	28,923	+ 3.4	22,422
Luxembourg	9.2	+ 1.6	11.6	202	- 1.2	251
Netherlands	180.3	- 1.9	160.7	7,355	- 0.8	6,621
EEC Countries	2,227.2	- 2.8	2,421.3	113,820	- 0.7	94,446
Austria	162.8	- 0.7	135.4	5,616	- 2.1	5,032
Denmark	114.8	- 0.6	105.3	3,202	- 4.5	3,086
Spain	148.0	- 4.5	115.6	11,836	- 4.8	7,975
United Kingdom	831.1	- 0.7	985.3	28,703	- 1.4	33,490
Greece	11.2	+ 7.9	5.6	1,133	+ 7.9	569
Ireland	9.5	+ 7.4	8.1	570	+ 4.5	366
Norway	30.4	- 6.0	41.2	1,643	- 3.8	1,588
Portugal	103.3	+ 2.9	49.7	2,654	+ 1.7	1,390
Sweden	51.4	- 8.2	112.2	4,554	- 6.7	5,855
Switzerland	242.1	+ 0.4	203.5	8,107	+ 2.5	6,048
Turkey	98.1	+ 6.2	60.3	4,539	+ 5.5	3,145
Yugoslavia	182.9	- 6.6	131.0	10,284	- 4.4	5,981
Other Countries	1,985.7	- 1.2	1,953.2	82,842	- 1.9	74,525
Total	4,212.9	- 2.0	4,374.5	196,662	- 1.2	168,971

Table 2. FREIGHT TRAFFIC

	TONS CARRIED			TONS-KM		
	1968 (million)	1968-67 (%)	1953 (million)	1968 (million)	1968-67 (%)	1953 (million)
Germany	305.4	+ 9.4	247.0	57,926	+ 7.5	45,921
Belgium	63.8	+ 6.4	63.2	6,732	+ 9.7	5,785
France	229.1	+ 0.2	162.8	62,955	+ 0.1	40,338
Italy	55.9	+ 0.5	44.2	17,129	+ 0.6	12,154
Luxembourg	15.7	+ 11.6	16.1	639	+ 12.0	554
Netherlands	25.8	+ 1.1	23.7	3,274	+ 1.2	3,252
EEC Countries	695.7	+ 4.9	557.0	148,655	+ 3.4	108,004
Austria	43.3	- 0.2	36.9	8,040	- 0.9	5,274
Denmark	6.7	- 3.3	6.3	1,417	- 1.7	1,188
Spain	31.0	+ 3.3	27.7	8,623	- 5.5	7,803
United Kingdom	210.6	+ 3.3	293.9	24,026	+ 8.0	37,224
Greece	2.5	- 0.9	1.4	548	- 2.6	268
Ireland	3.3	+ 9.1	2.7	543	+ 7.7	353
Norway	29.7	+ 17.3	13.9	2,488	+ 8.4	1,410
Portugal	3.6	+ 5.2	3.5	771	+ 6.0	642
Sweden	53.4	+ 6.4	37.9	12,921	+ 4.7	8,390
Switzerland	45.0	+ 3.0	19.3	5,956	+ 2.5	2,465
Turkey	14.0	+ 1.4	9.3	5,235	+ 3.6	3,343
Yugoslavia	63.1	- 0.8	34.4	15,530	- 0.2	7,935
Other Countries	506.2	+ 3.3	487.2	86,098	+ 3.0	76,295
Total	1,201.9	+ 4.2	1,044.2	234,753	+ 3.2	184,299

Table 3. AVERAGE LENGTH OF JOURNEY OR HAUL

	PER PASSENGER		PER TON	
	1968 (km)	1953 (km)	1968 (km)	1953 (km)
Germany	36.6	25.6	188.0	186.0
Belgium	36.1	33.2	105.5	92.6
France	62.0	52.2	275.0	248.0
Italy	89.4	57.5	306.7	275.0
Luxembourg	21.1	21.6	40.8	34.5
Netherlands	40.8	41.2	143.2	156.7
Austria	34.5	37.2	185.6	142.8
Denmark	.	.	209.0	187.0
Spain	80.0	69.9	278.7	273.6
United Kingdom	34.5	34.0	114.1	118.6
Greece	.	.	.	.
Ireland	61.0	45.0	164.0	129.0
Norway	54.0	40.0	84.4	100.7
Portugal	25.7	28.0	215.2	183.7
Sweden	80.5	52.5	241.0	222.0
Switzerland	34.5	29.7	143.5	127.5
Turkey	46.2	57.4	372.6	341.8
Yugoslavia	56.0	46.0	239.0	240.0

III. LENGTH OF NETWORK AND TRANSPORT OUTPUT

1. The overall length of the Member countries' combined networks at the end of 1968 was 177,344 (91,042) km as compared with 180,999 (91,556) km at the end of 1967. Table 4 shows the corresponding figure at the end of 1953, when the total still amounted to nearly 196,000 (96,000) km. This table also shows that the only countries where line closures attained a fairly big scale were the United Kingdom (-35 per cent), Sweden (-19 per cent) and Belgium (-14 per cent).

Table 4. SIZE OF NETWORK AT END OF YEAR

	1968 (km)	1967 (km)	1953 (km)
Germany	29,845	30,007	30,510
Belgium	4,282	4,336	4,973
France	37,104	37,323	40,519
Italy	16,351	16,351	16,872
Luxembourg	312	312	476
Netherlands	3,148	3,227	3,186
EEC Countries	91,042	91,556	96,536
Austria	5,432	5,431	5,499
Denmark	2,354	2,354	2,867
Spain	13,687	13,410	13,019[1]
United Kingdom	20,051	21,217	30,968
Greece	2,572	2,602	1,744[1]
Ireland	2,146	2,146	3,231
Norway	4,242	4,242	4,390
Portugal	3,566	3,566	3,571
Sweden	12,148	12,202	15,078
Switzerland	+ 2,914	2,914	2,913
Turkey	+ 8,010	8,008	7,696
Yugoslavia	+ 9,185	11,351	8,726
Other Countries	86,307	89,443	99,696
Total	177,349	180,999	196,232

1. End of 1955.

2. Table 5 summarises operations in terms of train-km with separate figures for steam, electric and diesel traction. These figures too are compared with those for 1953.

This table plainly shows the scale of the structural changes in the various railways concerned. Table 6 summarises the increase in traffic in 1968 as compared with 1953, and the percentage accounted for by each type of motive power.

Table 5. TRAIN-KM

OPERATIONS IN:	STEAM TRACTION		ELECTRIC STATION		DIESEL TRACTION	
	1968 (MILLION)	1953 (MILLION)	1968 (MILLION)	1953 (MILLION)	1968 (MILLION)	1953 (MILLION)
Germany	72.0	419.0	301.0	55.0	180.0	44.0
Belgium	-	54.0	39.0	6.0	39.0	11.0
France	39.0	249.0	308.0	113.0	228.0	89.0
Italy	9.0	60.0	185.0	107.0	66.0	34.0
Luxembourg	-	3.0	1.0	-	3.0	2.0
Netherlands	-	16.0	62.0	42.0	22.0	7.0
EEC Countries	120.0	801.0	896.0	323.0	538.0	187.0
Austria	8.6	31.2	56.3	22.9	16.9	4.0
Denmark	0.3	17.1	6.0	3.8	34.6	16.0
Spain	28.0	114.0	62.0	14.0	77.0	8.0
United Kingdom	2.1	527.5	151.0	80.0	313.0	3.0
Greece	.	.	.	.	.	.
Ireland	-	13.6	-	-	12.4	1.8
Norway	0.4	12.5	24.1	13.7	9.1	4.7
Portugal	4.4	13.4	8.2	-	15.7	8.2
Sweden	-	19.6	84.2	74.9	23.6	29.1
Switzerland	-	1.8	85.3	64.6	0.7	0.3
Turkey	27.0	27.0	2.0	-	11.0	2.0
Yugoslavia	52.0	63.0	11.0	9.0	50.0	.
Other Countries	122.8	840.7	490.1	282.9	564.0	77.1
Total	242.8	1,641.7	1,386.1	605.9	1,102.0	264.1

Table 6. TRAIN-KM

	YEAR 1968				YEAR 1953			
	(MILLION)		(%)		(MILLION)		(%)	
Steam traction	243	(120)	8.8	(7.7)	1,642	(801)	65.4	(61.1)
Electric traction	1,386	(896)	50.8	(57.7)	606	(323)	24.1	(24.6)
Diesel traction	1,102	(538)	40.4	(34.6)	264	(187)	10.5	(14.3)
Total	2,731	(1,554)	100.0	(100.0)	2,512	(1,311)	100.0	(100.0)

3. Transport output in terms of gross ton-km for the years 1968 and 1953 is broken down by mode of traction for each railway system (excluding the United Kingdom, Ireland and Norway) in Table 8. The general summary in Table 7 brings out even more plainly than Table 6 the extent of the ground gained by electric traction. In the EEC countries, for instance, the share accounted for by steam traction has dropped from 70 to 11 per cent in 15 years, while the share accounted for by electric traction rose from 28 to 72 per cent even though only 30 per cent of the total network is electrified.

Table 7. GROSS TON-KM[1]

TYPE OF TRACTION:	YEAR 1968				YEAR 1953			
	(MILLION)		(%)		(MILLION)		(%)	
Steam traction ...	115,974	(66,253)	13.8	(10.9)	391,152	(303,143)	66.9	(70.1)
Electric traction .	562,157	(440,443)	67.2	(72.4)	179,003	(119,028)	30.6	(27.6)
Diesel traction ...	158,011	(101,682)	19.0	(16.7)	14,463	(9,911)	2.5	(2.3)
Total.....	836,142	(608,378)	100	(100)	584,618	(432,082)	100	(100)

1. Excluding the United Kingdom, Ireland and Norway.

Table 8. GROSS TON-KM[1]

	STEAM TRACTION		ELECTRIC TRACTION		DIESEL TRACTION	
	1968 (MILLION)	1953 (MILLION)	1968 (MILLION)	1953 (MILLION)	1968 (MILLION)	1953 (MILLION)
Germany.....	45,352	152,727	151,551	18,228	32,485	2,678
Belgium	-	22,615	15,620	2,568	14,249	548
France	18,960	109,450	170,970	51,280	39,180	4,580
Italy	1,940	16,901	82,914	32,992	8,161	2,038
Luxembourg	1	1,430	758	-	981	67
Netherlands.....	-	.	18,630	13,960	6,626	-
EEC Countries	66,253	303,143[2]	440,443	119,028	101,682	9,911
Austria.....	3,449	9,449	23,295	9,055	2,396	327
Denmark	82	5,545	1,256	738	9,025	1,726
Spain.....	8,309	27,873	18,515	3,132	14,790	418
Greece	.	.	.	.	.	.
Portugal.....	763	2,503	2,725	-	2,829	1,354
Sweden	6	3,451	39,463	28,935	2,503	514
Switzerland	1	400	30,610	17,698	71	22
Turkey	13,607	13,170	488	-	4,424	182
Yugoslavia	23,504	25,618	5,362	417	20,293	9
Other Countries[1].....	49,721	88,009	121,714	59,975	56,331	4,552
Total[1]	115,974	391,152	562,157	179,003	158,011	14,463

1. Excluding the United Kingdom, Ireland and Norway.
2. Excluding the Netherlands.

B. ROLLING STOCK

I. TRACTIVE STOCK

1. The total number of locomotives at the end of 1968 was 33,027 (18,837) as compared with 63,437 (31,828) at the end of 1953. Transport output in terms of passenger-km and ton-km having nonetheless increased in the meantime (see Chapter A III), the drop of about 48 per cent (41 per cent) in the number of locomotives is a token of the successful results achieved by electrification and dieselisation.

The breakdown by type of traction is shown below:

Table 9. NUMBER OF LOCOMOTIVES

TYPE OF TRACTION	YEAR 1968		YEAR 1953	
	(UNITS)	(%)	(UNITS)	(%)
Steam locomotives	8,103 (4,398)	24.5 (23.4)	57,090 (28,113)	90.0 (88.3)
Electric locomotives..	9,682 (6,543)	29.3 (34.7)	5,083 (3,075)	8.0 (9.7)
Diesel locomotives ...	15,242 (7,896)	46.2 (41.9)	1,264 (640)	2.0 (2.0)
Total.....	33,027 (18,837)	100 (100)	63,437 (31,828)	100 (100)

2. Table 10 shows the changes in the numbers of electric locomotives for each type of current, including multi-current units.

An outstanding feature is the sharp increase in main line locomotives running on DC 3,000 V, and even more so those classified under single-phase 16 2/3 HZ and 50 HZ. Another noteworthy point is the decline in the number of three-phase current units to 3,000 V in Italy. The number of units equipped for two, three or four types of current, i.e. 245 (207) show a very striking increase. In many cases when networks supplied with different types of current were linked up, the coming into service of these units made a striking contribution to the increase in commercial speeds, especially for international passenger trains.

Table 10. NUMBER OF ELECTRIC LOCOMOTIVES, BROKEN-DOWN BY TYPE OF CURRENT

TYPE OF CURRENT	YEAR 1968		YEAR 1953	
	(UNITS)	(%)	(UNITS)	(%)
Locomotives running on:				
DC 660-1,200 V	73[1] (-)	0.7	22 (13)	0.5
DC 1,500 V	1,525 (1,376)	15.8	1,250 (1,100)	24.6
DC 3,000 V	2,145 (1,812)	22.2	1,003 (945)	19.7
Single-phase AC 16 2/3 HZ	4,462 (2,204)	46.1	2,246 (460)	44.2
Single-phase AC 50 HZ	1,086 (802)	11.2	5 (5)	0.1
3-phase AC	146 (142)	1.5	557 (552)	10.9
2 types of current	210 (183)	2.5	- (-)	-
3 types of current	8 (7)		- (-)	
4 types of current	27 (17)		- (-)	
TOTAL	9,682 (6,543)	100	5,083 (3,075)	100

1. Including 59 diesel-electric locomotives.

3. Table 11 shows the development of the diesel locomotive fleet. The EEC countries show a relatively greater increase in electric locomotives and the other countries a relatively greater increase in diesel locomotives. The number of diesel locomotives exceeding 1,000 CV shows a striking increase, 45 per cent of which is accounted for by the United Kingdom.

Table 11. NUMBER OF DIESEL LOCOMOTIVES, BROKEN-DOWN BY RATED OUTPUT

RATED OUTPUT	YEAR 1968		YEAR 1953	
	(UNITS)	(%)	(UNITS)	(%)
Up to 350 CV	5,005 (2,538)	32.8	848 (373)	67.1
From 351 to 1,000 CV	4,731 (3,195)	31.0	373 (261)	29.5
From 1,001 to 2,000 CV	4,302 (1,983)	28.2	42 (6)	3.4
Over 2,000 CV	1,204 (180)	8.0	1 (-)	< 1
TOTAL	15,242 (7,896)	100	1,264 (640)	100

4. The number of electric railcars rose from 6,407 (1,419) in 1953 to 10,934 (2,396) in 1968. The increase in the number of railcars running on DC 660 - 1,200 V or on single-phase AC 50 HZ is almost entirely due to the United Kingdom, which accounts for 70 per cent of the total number of the railcars. However, these figures cover both self-propelled coaches and trailers. The increase in the number of railcars running on two types of current is chiefly due to Spain where two DC systems are in operation: 1,500 V and 3,000 V. In Italy, on the other hand, 25 DC railcars operating with three-phase units as dual current stock were scrapped when most of the three-phase AC routes were converted to DC. Germany is the only country using battery operated railcars and the number of such vehicles doubled during the period under review.

5. The number of diesel railcars increased considerably during the period under review, from 2,834 (2,032) to 8,726 (3,343) and there was a simultaneous growth in the percentage of higher capacity units. The United Kingdom accounts for 44 per cent of all diesel railcars: these figures include both self-propelled units and trailers.

France, Germany and Italy each account for about 1,000 diesel railcars.

6. Further details concerning tractive stock are given below:

Belgium

The SNCB has ordered 30 single-motored electric bogie locomotives; 15 of these will come into service in 1969. Forty-two twin-motored electric railcars have also been ordered. The Ministry of Economic Affairs, a makers consortium and the SNCB have made an agreement for the designing of a four-current 7,000 V Thyristor locomotive capable of speeds up to 200 km/h.

An electric locomotive from the existing fleet has been converted for 200 km/h speed tests.

France

The steam locomotive fleet has again been substantially scaled down. On the other hand, 54 electric locomotives for use on newly electrified lines and 28 self-propelled electric units for Paris commuter traffic have come into service. The purchase of 87 diesel main line locomotives and twenty-nine 330 KW single-motored units was a further stage in the modernisation of the diesel fleet. In the light of very satisfactory trials with the "Turbotrain" since 1967, the SNCF has decided to order ten units. Existing programmes provide for the complete elimination of steam traction by 1972.

Italy

Two electric locomotives, 69 diesel

main line locomotives and 67 diesel shunting engines came into service. As a consequence, steam shunting engines can now be entirely dispensed with.

Austria

Conversions from steam to electric and diesel traction continued. Eighteen electric traction units and eight diesel traction units came into service.

Spain

New equipment: 39 diesel locomotives (seven main line locomotives and 32 shunting engines), 78 diesel multiple-units, one dual voltage 1,500-3,000 V electric locomotive and 22 dual-voltage electric railcars each comprising a self-propelled unit and trailer. The approximate figures for new acquisitions during the next five years are as follows: 74 diesel main line locomotives, 35 diesel shunting engines, 54 diesel multiple-units, five Talgo trains, 65 electric locomotives and 20 electric multiple-units.

Sweden

Four locomotives and 47 Thyristor multiple units for commuter services, and two diesel-electric locomotives, have been delivered.

Switzerland

Nineteen electric and eight diesel locomotives have come into service. Twenty-three locomotives and railcars were scrapped in addition to the last six remaining steam locomotives.

Yugoslavia

Steam locomotives will in future be assigned to branch lines only. Diesel traction is expanding steadily. Fairly large deliveries of diesel multiple units, electric multiple units and railcars have been received.

II. FREIGHT AND COACHING STOCK

a) Freight wagons

1. The total number of freight wagons (excluding the United Kingdom) at the end of 1968 was 968,678 (694,049) as compared with 1,103,321 (823,070) at the end of 1953. At the end of 1968 there were also 430,275 freight wagons belonging to British Rail, as compared with 1,107,110 at the end of 1953, and 162,697 (135,051) privately-owned wagons as compared with 112,082 (92,435) at the end of 1953. Despite this fall in numbers, the capacity of the freight wagon fleet rose from 21,437,000 (16,787,000) to 24,497,000 (18,466,000) tons. Average payload capacity per wagon rose from 19.4 (20.4) to 25.3 (26.6) tons. In the case of privately-owned wagons, the corresponding increase was from 20.3 (21.2) to 28.2 (28.6) tons.

2. Table 12 gives wagon numbers in Member countries and Table 13 gives the breakdown according to type and the shares accounted for by the EUROP fleet and the POOL fleet.

3. These comparative figures show a substantial decline in the number of open wagons, i.e. by 29 per cent (37 per cent). This is due to the changed pattern of freight traffic, and an increase of about 18 per cent (26 per cent) in the number of other wagons. The EUROP fleet again shows an increase for open and covered wagons alike but - doubtless for the same reasons as those explained above - the total number of wagons involved is below the peak attained on 31st December, 1966. This drop is partly compensated by the size of the "POOL" flat wagon fleet which comprises all the railways of the EUROP Pool with the exception of Austria. By the end of 1968, standard and unified wagons accounted for one-third of the total. It now remains to see what the railways will decide as regards the second stage of standardization as the conventional construction of standard and unified wagons could not continue if automatic coupling were introduced as proposed, and as a change of approach is needed to cope with the altered pattern of traffic, especially with regard to fuel and power. Freight wagons with four or more axles which are suitable for conversion to automatic coupling account for only a very small part, i.e. 7.5 per cent (9.7 per cent) of the total fleet. A survey conducted in 1966 showed that about a quarter of them were open and covered wagons, the others being listed as "other wagons".

4. Further details are given below:

Germany

The trend shows a constant decline in the number of conventional covered and open wagons coupled with an increase in the

Table 12. FREIGHT WAGONS

YEAR	WAGONS BELONGING TO RAILWAY ADMINISTRATIONS TOTAL		OF WHICH "POOL" WAGONS		PRIVATELY-OWNED WAGONS	
	1968	1953	1968	1953	1968	1953
Germany	272,197	248,707	86,204	50,000	42,088	35,737
Belgium	43,612	77,867	18,021	19,500	5,106	5,108
France	241,100	349,800	90,000	50,000	73,300	43,000
Italy	113,697	119,888	24,216	14,600	12,070	8,349
Luxembourg	3,483	4,174	1,533	1,229	487	241
The Netherlands...	19,960	22,634	4,800	4,000	-	-
EEC Countries	694,049	823,070	224,774	139,329	135,051	92,435
Austria	33,666	28,616	8,179	4,500	3,682	3,335
Denmark	10,390	13,636	4,591	800	734	691
Spain.....	54,162	74,810	-	-	11,352	10,885
United Kingdom ...	430,275	1,107,110	-	-	1,067	.
Greece	.	.	-	-	.	.
Ireland	9,805	12,256	-	-	163	178
Norway.....	10,089	12,294	-	-	469	166
Portugal	7,671	8,446	-	-	669	924
Sweden	47,555	41,042	-	-	5,266	2,840
Switzerland	25,632	18,327	9,147	3,932	6,699	3,031
Turkey	16,770	14,582	-	-	1,227	662
Yugoslavia.....	58,889	56,242	-	-	-	-
Other Countries ...	704,904	1,387,361	21,807	9,232	31,328	22,982
Total	1,398,953	2,210,431	246,681	148,561	166,379	115,417

Table 13. FREIGHT WAGONS (EXCLUDING THE UNITED KINGDOM)

	YEAR 1968 (NUMBER)	(%)	YEAR 1953 (NUMBER)	(%)
A. Railway wagons				
a) all wagons: of which				
open wagons	327,465 (221,731)	33.8	460,630 (353,883)	41.7
covered wagons	401,773 (283,357)	41.5	440,972 (318,826)	40.0
other wagons	239,440 (188,961)	27.7	201,719 (150,361)	18.3
Total a)	968,678 (649,049)	100.0	1,103,321 (823,070)	100.0
b) EUROP fleet: of which				
open wagons	117,511 (108,337)	47.6	89,287 (83,855)	60.1
covered wagons	91,904 (80,883)	37.3	59,274 (55,474)	39.9
c) POOL fleet:				
flat wagons	37,266 (35,554)	15.1	- (-)	-
Total b) and c)	246,681 (224,774)	100.0	148,561 (139,329)	100.0
d) Standard wagons	184,525 (164,636)	56.7	850[1] (850)	.
e) Unified wagons	141,118 (100,709)	43.3	4,155[1] (3,062)	.
Total d) and e)	325,643 (265,345)	100.0	5,055[1] (3,912)	.
f) Wagons with four or more axles	73,244 (63,287)	7.5	24,105[2] (20,656)	.
B. Privately-owned wagons of which:				
open wagons *	5,918 (4,591)	.	2,730 (2,044)	.
covered wagons*	7,004 (5,408)	.	3,057 (2,518)	.
other wagons*	87,804 (49,804)	.	52,500 (44,973)	.
Total B** of which:	166,379 (135,051)	.	115,417 (92,435)	.
with four or more axles	30,833[3] (27,826)	18.9	5,857[3,4] (5,017)[4]	.

* Excluding French and Spanish privately-owned wagons.
** Including French and Spanish privately-owned wagons.
1. Excluding Yugoslavia.
2. Excluding Spain and Yugoslavia.
3. Excluding Spain, Sweden and Yugoslavia.
4. Excluding France.

number of special wagons to match users' requirements as regards up-to-date handling equipment (cranes, fork-lift trucks, pressure-discharge equipment and belt conveyors). The German railways have started to buy containers and corresponding carrier-wagons to match the new services they offer. Where flat wagons are concerned, there is a growing drift from two-axle stock to bogies.

Austria

Deliveries: 1,468 large capacity wagons and six large-capacity sliding roof wagons. The Austrian railways also acquired 58 four-axle flat wagons under a hire contract.

Belgium

Projects now in progress cover: increased transport capacity, modernization of loading and unloading facilities (with self-chocking devices - gravity and pressure discharge) and specialization of wagons for particular traffics.

Spain

New equipment: 45 coaches, 38 trailers for 3,000 V multiple units, 336 wagons (234 bogie flat wagons for haulage of iron and steel products and 102 bogie oil tankers). New acquisitions planned for the period 1969-1973 are as follows: 45 coaches, 3,535 conventional and special wagons and 940 containers.

France

As part of the renewal of the fleet, 7,676 new wagons were acquired and 2,730 old wagons modernised.

United Kingdom

Deliveries were as follows: 472 wagons and 1,852 containers for freightliner services; 1,518 high-capacity coal wagons and 104 pressure-discharge fly-ash wagons for servicing new power stations; 26 redundant coal under-frames and 220 iron ore wagons were converted for the haulage of motor vehicles and steel coil respectively. New high-capacity air braked wagons of conventional type for speeds up to 75 m.p.h. are being planned. The first batch of these wagons (covered wagons) is now in course of construction and it is expected that other types (wagons for the haulage of steel products and high-sided wagons) will be under construction next year and will constitute the first stage in the renewal of the general purpose wagon fleet.

Italy

761 wagons were delivered.

Luxembourg

300 unified wagons came into service.

The Netherlands

Additions to freight stock were as follows: 18 open wagons, 50 special wagons and 15 privately-owned wagons.

Norway

The number of special wagons has increased. Old units are to be modernised to bring them up to present-day standards.

Sweden

About 1,100 wagons (including both standard and special wagons) were delivered. The special stock includes bogie ore carriers with an axle-load of 25 tons, wagons with a 24.5 m loading platform for the haulage of containers and/or semi-trailers, and bogie wagons for the haulage of powdered goods and oil products.

Switzerland

200 two-axle flat wagons.
250 bogie flat wagons.
120 sliding-wall covered wagons.
84 special tank carriers.

b) Coaches and vans

5. The coaching fleet fell from 117,386 (53,857) units at the end of 1953 to 87,082 (47,582) at the end of 1968. The replacement of two-axles coaches by bogie stock is unlikely to have affected seating capacity.

In the United Kingdom, the coaching fleet has followed much the same trend as freight stock since it has decreased by 43 per cent. In this country, and to a lesser degree in others, the changeover from locomotive traction to multiple units has played a considerable role.

The same reasons doubtless account for the decline in the number of luggage vans from 45,823 (21,902) to 23,438 (10,744).

A slight increase in the number of coaches is recorded in Italy, Austria, Turkey and Yugoslavia and a considerable drop in Belgium, Luxembourg, Denmark, Spain, Ireland and Sweden.

6. Details concerning individual countries are given below:

Germany

Where coaching stock is concerned, special attention has been given to the replacement of obsolete units by new ones. Account must also be taken of the growing need for coaching stock of special design (TEE coaches, sleepers and dining cars).

Austria

The fleet has been increased by 78 four-axle coaches for domestic traffic, two power units and seven trailers for fast inter-city trains.

Belgium

Nine wooden coaches have been withdrawn. No changes in the size of the fleet are planned during the coming years.

France

As a counterpart for the withdrawal of 545 obsolete vehicles, the coaching fleet has been modernised by the coming into service of 225 new units, including 99 coaches complying with UIC standards and seven dining cars.

United Kingdom

The reduction of the coaching stock fleet continued in accordance with the policy of concentration on trunk routes. 225 new air-braked coaches and 36 new postal vehicles were delivered in 1968 but some of the older coaching stock was withdrawn. A start was made on designs for new style coaches for inter-city services with improved payload/tare ratio, and improved insulation, and with the intention of incorporating air-conditioning. The development of a new and more efficient design of electric multiple unit vehicles for heavy commuter lines continues.

Italy

Deliveries: 301 coaches and 42 luggage and mail vans.

The Netherlands

26 trailer coaches and 16 electric multiple units (in pairs) have been added to the coaching fleet.

Sweden

The last remaining wooden coaches have been taken out of commission. A number of "1960 type" coaches were delivered; this is probably the last batch. Twenty-five self-service dining cars are in course of delivery.

Switzerland

The contracts for 1968 and 1969 comprise:

30 sleeping cars.
50 AB coaches.
160 coaches and 30 vans of unified type for domestic traffic.

For their domestic services, the Swiss Federal Railways are studying the design of a new air-conditioned coach with an inclinable body for negotiating bends.

III. THE ROLE OF EUROFIMA

1. In all, EUROFIMA operations in 1968 involved new resources amounting to approximately Sw. Frs. 304 million and thus showed a further increase (the corresponding figure for 1967 was approximately Sw. Frs. 243 million). Loan redemption during the same period amounted to Sw. Frs. 74 million. The foregoing operations do not include a Sw. Frs. 40 million loan which was issued in December 1968 but not fully subscribed before 10th January, 1969.

2. The overall financial resources that the Company has been able to make available to its members since its foundation thus amounts to the equivalent of Sw. Frs. 1,436 million, of which 384 million had been redeemed by the end of 1968.

3. Deliveries of equipment in 1968 were as follows: 33 diesel locomotives, four electric locomotives, 126 coaches (including 18 sleepers). three multiple-units and 425 wagons (including 307 bogie wagons). During the same period, owner-ship of 55 diesel locomotives, 31 coaches and one electric multiple-unit bought under hire-purchase contracts was transferred to the former lesses.

C. INFRASTRUCTURE

I. FIXED INSTALLATIONS (EXCLUDING ELECTRIFICATION)

1. General

Railway investment in this field was mainly directed to projects involving both better installations and lower labour and equipment costs, e. g. welded rails, replacement of obsolete control boxes by modern centralised units, modernization or replacement of level crossings, improvements to urban networks, modernization and concentration of marshalling yards and installation of container terminals.

2. Germany

Renewals: rails for 1,152 km of track, 1.24 million wooden sleepers and 0.42 million concrete sleepers for 842 km of track, and 2,212 points. A further increase brought the length of welded track to 44,320 km, i. e. 73 per cent of the total. Welded points now also account for the same percentage.

Sixty-eight up-to-date signal boxes were completed or brought into service. Thirty-six others are to be completed very shortly. As a consequence, 256 old mechanical and electro-mechanical units involving very high maintenance costs have been scrapped. By the end of the year, 874 up-to-date signal boxes were in commission. 92 per cent of double-track lines, 59 per cent of single-track lines and 98 per cent of the tractive stock used on trunk lines is fitted with automatic braking (Indusi system). Another 500 points remote from control boxes, most of them catering for dense traffic in both positions, have been fitted with propane heating devices, and another 1,370 with electric heating. In all, 2,500 units are at present propane-heated and 3,770 electrically heated. After a series of satisfactory preliminary tests, pilot installations are being built in the Hanover area for the centralised computer control of freight traffic operations and accounting.

Manned level crossings were replaced by 175 units equipped with flashing or colour-light signals, in most cases together with half-gates and, in addition, 92 call facilities, 18 gates equipped with luminous signs and 17 with TV came into service. 736 level crossings have been eliminated, 80 of them replaced by underpasses or flyovers and 321 others, situated on branch lines scheduled for closure, have become redundant.

A number of important routes have been realigned in order to raise authorised speeds from 100 to 120 km/h or from 120 to 140 km/h.

The construction of urban networks at Munich and Hamburg proceeded according to plan. The Dusseldorf urban rapid transit line was extended. The contract for the financing of the Ruhr urban network was signed in July and negotiations for the financing of the Frankfurt urban network are also completed. The preliminary studies being over, Frankfurt airport is to be linked to the Mainz-Frankfurt main line within the next few years. The first contract for the financing of the Stuttgart junction line is being drafted.

Seven combined transport and container terminals (Frankfurt, Mannheim, Ludwigshafen, Nuremberg, Munich, Basel, Bad Bf) came fully into commission. Six others have since come into service, mostly in the spring of 1969.

3. Belgium

Improvements to installations at various stations on the Liège-Namur line are proceeding according to plan. The SNCB is actively proceeding with the development of track facilities in the main ports. Container trans-shipment facilities have been put into service at Zeebrugge, Antwerp and Brussels. In the course of the year under review, 126 km of track were equipped with long welded rails. In all, 904 km of track has so far been equipped in this way. In 1968, 12 level crossings on main lines were eliminated and replaced by structures; 87 others were equipped with automatic road traffic signals and 62 were equipped with half-gates. The concentration of points and signals control facilities continued and 63 old-type signal boxes were replaced by eleven new route relay interlocking units. Computers linked to teleprinters have been installed in four marshalling yards with a view to the gradual introduction of automated control for wagon-load traffic.

4. France

The main features of the technical modernization of the railway system in 1968 were as follows:

- further progress with the installation of a data transmission network;

- improvements to traffic operating conditions by renewal and maintenance of the permanent way and studies for raising speed limits;

- more level crossings equipped with automatic signals;

- modernisation of telecommunications facilities;

- works concerning passenger and freight stations and various buildings;

- numerous civil engineering work-sites (bridges and tunnels).

The major achievements in this field were as follows:

- putting into commission of the information control centre, thus enabling operations to be conducted from several completely equipped terminals;

- coming into service, in March 1969, of the Paris-Austerlitz underground station for suburban lines, and of a substantial part of the new installations, in their final form, at the new Paris-Montparnasse station;

- reconstruction of the passenger station buildings at Nantes and Nimes;

- work is proceeding on various sites in the Paris area in connection with projects concerning the RATP (underground) or the RER (regional rapid transit network);

- provision of stopping facilities in building development zones and of sidings or sheds for suburban stock;

- installation at Hendaye of a bogie-changing facility for wagon-lit stock on the Paris-Madrid route;

- installation of gantry cranes for containers.

5. Italy

The railways are proceeding with the installation of long-welded 60 kg/m rails, with prestressed concrete sleepers, in order to raise axle loads for freight traffic to 20 tons and speeds for passenger traffic to over 160 km/h. Steps were taken for the introduction of high speed trains (180 km/h) as from 1st June, 1969 on the Rome-Sezze Romano section of the Rome-Naples route, pending the complete adaptation of this line. Further progress was made with the doubling of the following lines: Battipaglia-Reggio Calabria; Genoa-La Spezia; Genoa-Ventimiglia and Ancona-Pescara.

6. Luxembourg

No comments.

7. Netherlands

The total length of line equipped with the automatic block system rose by 75 km to 1,303 km. The length of line equipped for centralised traffic control was 433 km and, with automatic train control, 319 km. Over 133 km of track were equipped with long-welded rails and by the end of 1968 the total length so equipped amounted to 790 km. In 1968, the number of level crossings equipped with flashing lights rose to 652 and the number of those equipped with automatic half-gates to 385.

8. Austria

Conversion from single track to double track on dense traffic routes continued. The doubling of the Krumpendorf-Pörtschach line was completed. Progress was made with the laying of a second track between Kematen and Zirl on the Arlberg line and, on the Tauernbahn, work began on the doubling of the Pusanitz-Spittal-Millstättersee section. As regards safer operation, more lines were equipped with the Indusi automatic braking system.

9. Denmark

The simplification of track layout at stations continued and sidings and junction lines were correspondingly expanded. In addition, stations were equipped with up-to-date safety installations and the automatic block system was installed on various lines. Stations are adapted to centralised traffic control to the fullest possible degree.

10. Spain

The main items concerning improvements to "European trunk routes" were as follows:

- renewal of 399 km of track, mostly with concrete sleepers and 54 kg rails;

- improvements to large stations;

- installation of equipment for automatic adjustment to change of gauge on Talgo trains at Irun; work began on a similar facility at Port Bou;

- strengthening of bridges;

- modernisation of workshops and depots;

- installation of safety devices and mechanical interlocking systems at stations;

- improvements to HF communication systems between Madrid and Miranda de Ebro.

11. United Kingdom

No comments.

12. Greece

No comments.

13. Ireland

Sidings and tippler were installed for handling lead and zinc concentrates. In anticipation of higher train speeds, work began on the installation of colour-light distance signals on the Dublin-Cork main line. Gantry cranes were provided at three locations.

Track maintenance: New relaying covered 23 km and resleepering 76 km.

14. Norway

The main effort during the last ten years has been directed to the modernization and strengthening of track to provide for loads of 18 tons per axle. Continuous welding of rails began five years ago: 12 per cent of the network has now been dealt with.

15. Portugal

Work in progress is as follows:

- track renewal involving realignment, including the renewal of 888 km of track on European trunk routes;

- modernization of signalling system on lines not yet converted to electric traction;

- construction of a new bridge on the Douro and strengthening or replacement of several other bridges;

- improvements to stations, including increased capacities.

16. Sweden

Centralised traffic control systems have come into service on 146 km of single track and 8 km of double track. Automatic block systems have been put into service on 22 km of single track and 5 km of double track. Twenty-three interlocking route relay units, including four on double track, were completed. A new depot was built for multiple stock used on Stockholm suburban lines. A drawbridge was built on the Gothland Canal. Long welded rails were laid on 170 km of track. Macadamised ballast was substituted for gravel ballast on 130 km of track. Centralised control of power and rectifier substations and of overhead conductor circuit-breakers was further extended in 1968.

17. Switzerland

Modernization included the following items:

- construction of a second track on remaining single-track lines, e. g. between Sion and Brigue, Bienne and Neuchâtel, Lenzbourg and Arth-Goldau;

- improvements to track in anticipation of higher train speeds;

- development of junction stations;

- development of intermediate stations: installation of 750 m passing sidings, station platforms with corresponding underground passages or flyovers for pedestrians, electrically operated safety equipment;

- installation of automatic block system and two-way working;

- branch lines for the elimination of dead-ends and for bypassing main junctions;

- construction of flyovers at junctions and crossings;

- installation of centralised modern marshalling yards;

- elimination of level crossings.

18. Turkey

- Renewal of rails on 51 km of track (40 km on the Irmak-Zonguldak line and 11 km on the Haydarpasa-Ankara line);

- Reinforcement of 36 km of track on the "southern lines".

As regards current CTC and telecommunications projects, CTC facilities on the Eskischir-Palatti route (165 km) are being operated on a trial basis;

Further progress was also made with track maintenance and renewal programmes

(sleeper replacements and closer sleeper spacing, lifting of track and change of tilt, reinforcement and replacement of structures, etc.).

19. Yugoslavia

Construction of six new marshalling yards and improvements to a number of existing marshalling yards and goods yards; modernisation of SS and TT safety equipment at stations; automatic block systems; telecommunications systems for train control; automatic braking systems; equipment for railway communications networks; automatic signals at busy level crossings.

Long rail welding is in progress and 177 km of track have been reconstructed.

II. ELECTRIFICATION

1. The length of the electrified network again rose in 1968, by 1,478 km, and so amounted to 49,922 km (27,749 km). From the end of 1968 to October 1969, a further increase of 566 km (184 km) brought the total to 50,508 km (27,923 km). These totals are broken down by type of current, as at the end of October 1969, in Table 14 below:

Table 14. LENGTH OF ELECTRIFIED NETWORK BROKEN DOWN BY TYPE OF CURRENT

TYPE OF CURRENT	ALL ECMT COUNTRIES			EEC COUNTRIES		
	KM	%		KM	%	
DC 600 - 1,200 V	2,127	4.2		177	0.6	
DC 1,500 V	7,111	14.1	41.2	6,392	23.0	54.3
CD 3,000 V	11,618	22.9		8,599	30.7	
Single-phase AC 16 2/3 HZ	22,740	45.0		8,180	29.3	
Single-phase AC 50 HZ	6,413	12.8	58.8	4,133	14.8	45.7
Three-phase AC	499	1.0		452	1.6	
Total	50,508	100.0	100.0	27,933	100.0	100.0

2. Four countries account for roughly 63 per cent of the total electrified network, as follows: France (8,906 km), Germany (8,173 km), Italy (7,911 km) and Sweden (6,958 km). The remaining 18,560 km, i.e. 37 per cent, are shared by 12 other countries. Two countries (Greece and Ireland) have no electrified lines. The electrified network, which covers about 28 per cent of the railway system as a whole, accounted for some 67 per cent of gross ton-km (excluding the United Kingdom, Ireland and Norway).

3. Existing programmes provide for further increases up to 1973 as follows: 1,017 km (313 km) on trunk lines and 2,069 km (856 km) on other lines. Yugoslavia, with 1,304 km, accounts for over 42 per cent of the combined figure (i.e. 3,086 km), the remainder being made up as follows: France 571 km, Germany 503 km, Austria 218 km, Norway 172 km, Turkey 130 km, Belgium 95 km, Portugal 77 km, Denmark 14 km and Switzerland 2 km.

4. If these programmes are fulfilled, 88 per cent (86 per cent) of the European trunk lines network (excluding links between Belgrade and Greece and Turkey, but including the Madrid-Burgos direct

line which was opened to traffic in 1968) will be electrified by 1973.

5. The map of the electrified network which was appended to last year's report, and which then showed the position up to October 1968, is not included this year as the increase in 1969 is too slight.

D. POWER CONSUMPTION

1. At various points in the foregoing chapters reference is made to the benefits (better rationalisation and efficiency) that are due to electrification and dieselisation. This process also had a decisive effect on power consumption.

2. Power consumption for traction rose from 7,580 million (3,970 million) kWh in 1953 to 18,790 million (11,970 million) kWh in 1968. Gas oil consumption rose from 0.32 (0.14) million tons to 3.24 (0.99) million tons whilst coal consumption dropped from 40.27 (18.39) to 8.02 (3.28) million tons.

3. Table 15 shows power consumption in terms of coal equivalent (CE) for the years 1968 and 1953. As a consequence of the better efficiency resulting from electrification and dieselisation, power consumption in 1968 is only 44 per cent (50 per cent) of the 1953 figure despite a considerable increase in transport output.

Table 15. POWER CONSUMPTION OF TRACTIVE ENGINES

TYPE OF TRACTION	YEAR 1968		YEAR 1953	
	(1,000T CE) **	%	(1,000T CE)	%
Steam*	8,023 (3,275)	40 (32)	40,273 (18,385)	85 (90)
Diesel	3,239 (991)	15 (10)	315 (139)	7 (1)
Electric	9,399 (5,983)	45 (58)	3,791 (1,985)	8 (9)
Total	20,661 (10,249)	100 (100)	47,379 (20,509)	100 (100)

* Coal including lignite and fuel oil.

** Conversion of energy into coal equivalent (CE):

1T coal	=	1T CE
1T lignite	=	0.5T CE
1T fuel oil	=	1.35T CE
1T diesel oil	=	1.4T CE
1,000 kWh	=	0.5T CE

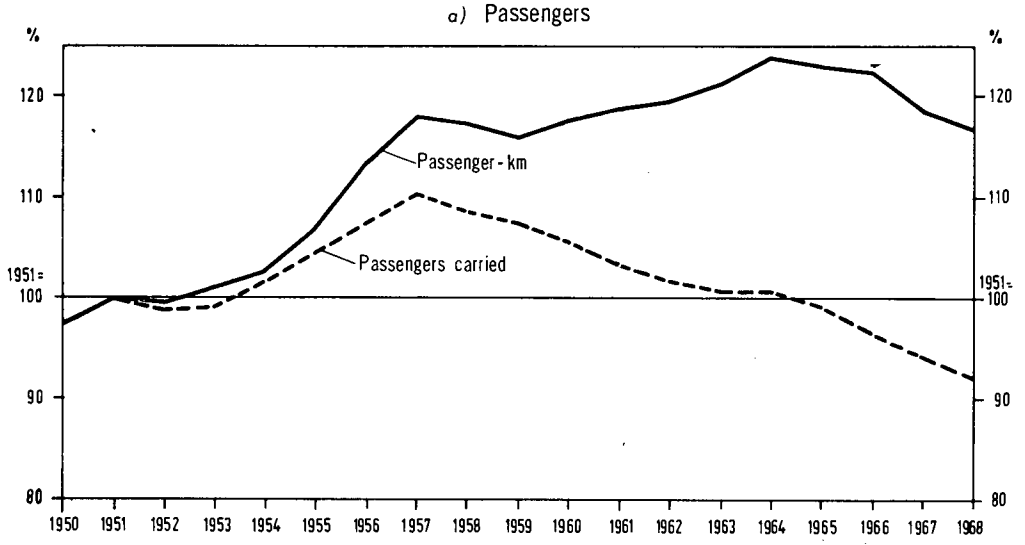
4. Thus, specific consumption (i.e. tons of coal equivalent per thousand passenger-km and ton-km) dropped even more steeply, from 13.41 to 4.75 t CE and, by 1968, was therefore down to 35 per cent of the 1953 figure - a striking illustration of what has been achieved by rationalisation of railways systems over a period of 15 years.

Annex 1

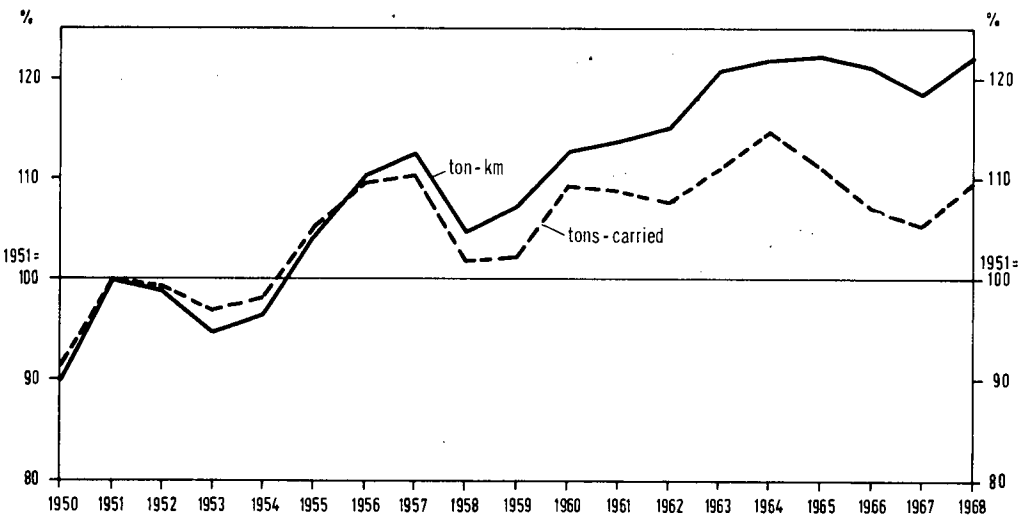
Graph 1

TREND OF RAILWAY TRAFFIC

a) Passengers



b) Freight

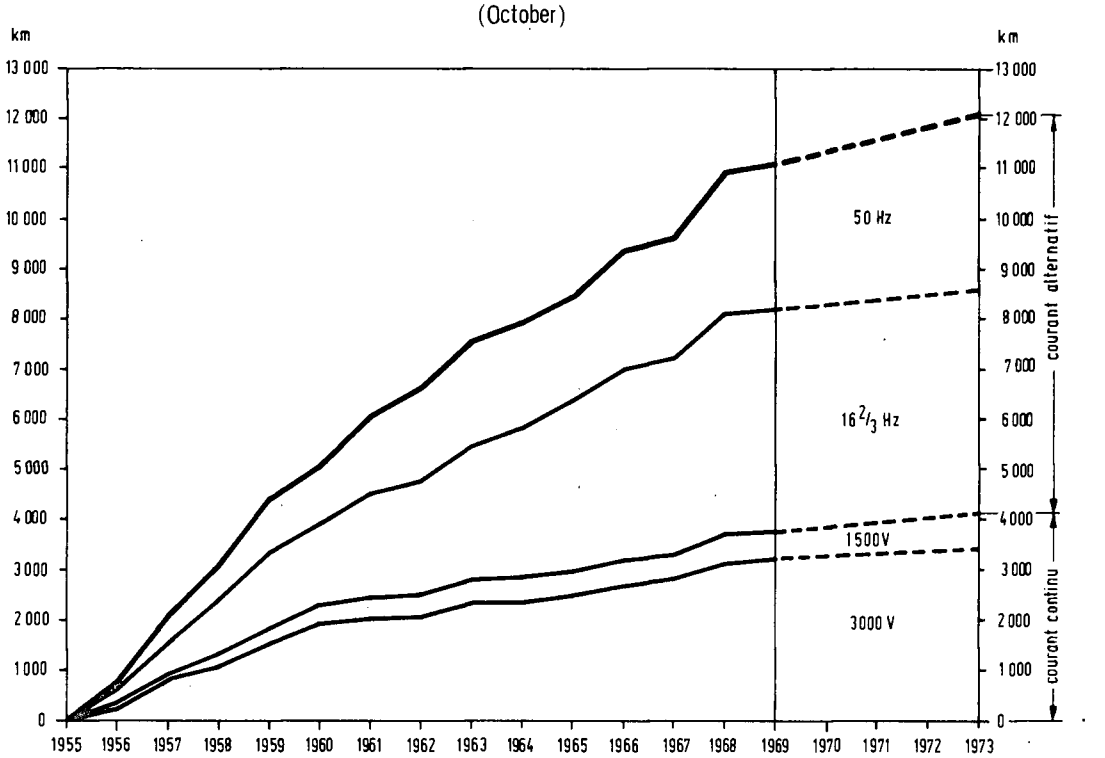


Annex 2

Graph 2

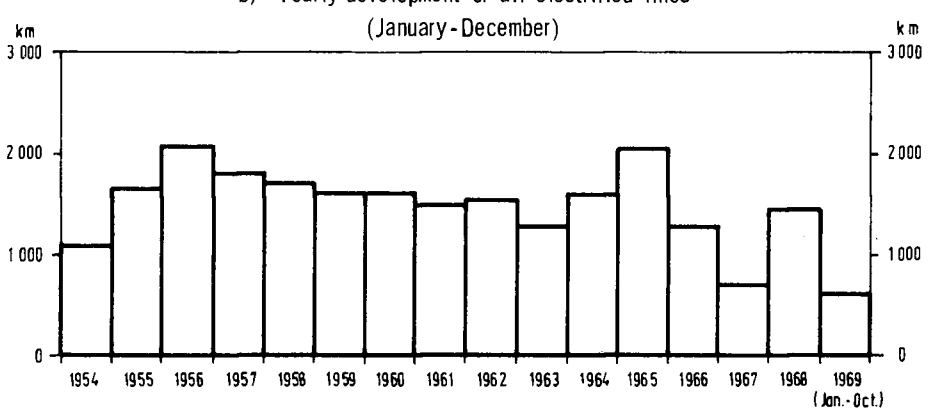
DEVELOPMENT OF ELECTRIFICATION

a) Progress with electrification of European trunk lines*
(October)



* Results of current conversion programmes not included.

b) Yearly development of all electrified lines
(January-December)



Annex 3

PASSENGER TRAFFIC TRENDS IN INDIVIDUAL COUNTRIES

Germany

The trend was in line with the economic upturn recorded in 1968. The efforts made to make rail passenger traffic more attractive by offering special terms for off-season travel and by providing better service in other respects began to yield results. Transport output rose as a consequence of the increase in the average length of journey which was due to structural changes. An outstanding feature in this respect is the decline in the sale of season tickets, notably for work commuter traffic, and the increased sale of ordinary tickets.

Austria

Except on the Wiener Schnellbahn, passenger traffic again dropped in 1968, but to a substantially lesser degree than in 1967. In the early months of 1969 there even seemed to have been frequency losses. This trend seems to be due to the constant growth of car ownership.

Belgium

Passenger traffic is declining. The number of passenger-km has fallen in step with the number of passengers carried, the average length of journey remaining practically unchanged. The loss of passenger traffic is chiefly due to competition from road transport.

The percentage of first-class passengers is still shrinking, and this particularly applies to full-fare passengers and school commuters.

As compared with the corresponding period of 1968, the first four months of 1969 show a drop of 3 per cent for passengers carried, and 1.1 per cent for passenger-km.

The passenger traffics affected are reduced fare and weekly season tickets.

Denmark

Traffic has declined to some extent, partly owing to strong competition from road transport.

Spain

The decline in traffic which began in 1967 continued in 1968, but the latest figures for the latter end of that year and for the early months of 1967 show a distinc improvement in step with the general economic upturn.

France

The passenger traffic decline in 1968 as compared with 1967 was chiefly due to the period of social unrest during which traffic was practically at a standstill. Trafic was also somewhat slacker than usual during the summer holidays as there were fewer foreign visitors. Main line traffic during the early months of 1969 showed a slight improvement owing to the development of business and recreational travel. If the months of May and June are not taken into account, commuter traffic shows a further increase which is due to suburban population growth.

United Kingdom

The development and marketing of inter-city services and the application of selective pricing techniques were the principal causes of the marked improvement of passenger income. Most of the important inter-city services carried more passengers than in the previous year. On the London-Birmingham and London-Liverpool/Manchester route growth continued in the second year after the introduction of electrified services. Principal services on other inter-city routes also enjoyed higher levels of traffic, the most notable being the increase in the long-distance Anglo-

Scottish traffic. These results were achieved in spite of an increase of 5 per cent in the number of private cars on the road. In the early months of 1969, the upward trend in passenger income continued, most categories of traffic yielding more income than was expected. Inter-city traffic - and first-class business in particular - appears to be growing at the same rate as in 1968.

Ireland

The increase in passenger traffic compared with 1967 can be accounted for by:

a) the removal of the "foot and mouth" travel restrictions which were in operation the year before;

b) better summer weather with the consequential increase in local seaside and excursion traffic;

c) attractive "off peak" reduced fares.

The first three months of 1969 showed a significant increase in passenger traffic as compared with the corresponding period of 1968. An intensive campaign was launched to attract commuters to suburban services - local trains were extended and the time-table was revised.

Italy

As compared with 1967, the number of passengers carried was 0.15 per cent down and the number of passenger-km 3.4 per cent up. This latter increase is due to the longer average length of journey and indicates the public's preference for trains on long journeys. Good results were recorded for both passengers carried and passenger-km in the first two months of 1969.

Luxembourg

Passenger traffic showed no substantial change in 1968, but there was a fairly sizeable improvement in the first three months of 1969.

Norway

The volume of passenger traffic shows a downward trend in recent years. The decline is mainly concentrated on short-distance journeys. The main reasons for this decline are the increasing number of private cars and the growth of bus traffic.

Netherlands

The decline in 1968 was essentially due to a big increase in car ownership. The trend in the first few months of 1969 is no better. In 1968, train frequencies were improved and new stations opened in city suburbs. Marketing procedures were improved.

Portugal

The volume of traffic has risen slightly and the average length of journey has levelled out. The slightly slower rate of growth as compared with previous year is mainly due to increased fares.

Sweden

The 3.6 per cent increase in the number of passengers is entirely due to the expansion of Stockholm commuter traffic which followed the re-organisation of the city transport system. The number of passengers on lines outside the Stockholm area declined at about the same rate as the year before. Short-distance traffic, of which private cars are increasingly taking the lion's share, showed the biggest drop, but even for longer journeys (exceeding 700 km) the decline was substantial. The steady expansion of domestic air services has a bearing on this. Developments in the early months of 1969 seem to mirror the trend for 1968. Slightly more passengers were carried on local ferry services in 1968 than the year before, but a setback occurred at the latter end of 1968 and became more pronounced in the current year.

Switzerland

Despite poor summer weather, the decline in passenger traffic, which had been going on since 1964, was checked. The average length of journey having risen, passenger-km show a bigger increase than passengers carried. Passenger income has risen to an even greater degree largely owing to the fare increases introduced on 1st November, 1968. Season-ticket traffic has dropped somewhat, but other traffics have improved slightly. The institution of an overall half-fare season-ticket for elderly people has proved highly successful. The growing popularity of winter sports combined with good snow conditions brought an increase in passenger traffic to mountain resorts. The number of accompanied

passenger cars carried through the St. Gothard tunnel dropped by 27 per cent with the coming into service of the toll-free road tunnel at San Bernardino. Traffic through the Simplon tunnel increased by 10 per cent and, through the Lötschberg tunnel, by 14 per cent. Good results are recorded for the first few months of 1969. Higher revenues reflect fare increases and the continuing success of half-fare season-tickets for elderly people.

Turkey

New developments:

a) pricing measures designed to attract traffic;

b) installation of railway ticket offices in busy city thoroughfares.

As compared with the previous year, fewer passengers were carried on so-called "mail" trains but more on express trains. The greater number of passengers carried over short distances has reduced the average length of journey.

Annex 4

DETAILED INFORMATION ON FREIGHT TRAFFIC TRENDS

Germany

In contrast to 1967, when the tonnage carried dropped by 2 per cent, ton-km by 3 per cent, and revenues by 6 per cent as compared with 1966, the results for 1968 reflect the economic upturn and this very favourable trend is still apparent in 1969. It is too early to judge how far structural changes (e.g. switching or traffic from other modes to rail) may have played a part.

Austria

Despite the generally improved economic situation, rail freight traffic failed to increase because of stronger competition from other modes of transport. The volume of traffic was practically the same as in 1967. Some traffic losses were recorded on domestic services but international traffic showed a gratifying increase. Signs of an improvement in freight carryings were apparent in the early months of 1969.

Belgium

The increase in traffic was most noticeable in the second half of the year. Ton-km having increased proportionally more than tons carried, the average length of haul rose by 3.1 per cent.

In conjunction with the strong recovery of demand in other EEC countries, the growth of traffic applies mainly to international transport services: exports (19.1 per cent), transit (13 per cent), imports (9 per cent); domestic traffic remained practically unchanged (0.2 per cent).

Compared with the corresponding period of 1968, the first four months of 1969 showed an increase of 7.2 per cent for tons carried and 8.6 per cent for ton-km. This again implies an increase in the average length of haul (+ 1.4 per cent).

Linked as it was with economic expansion and production growth, the increase in traffic mainly affected sectors relating to the iron and steel and other metal industries and the chemical industry. Other sectors also showed an improvement which was due either to the winning of new traffic or to bigger consignments on traditional traffic flows. Ore carryings are the only exception to this general tendency because of the growing share of the market accounted for by richer ores from overseas. Transit and international outbound traffics show the biggest improvement, domestic and international inbound traffic having increased only slightly.

Denmark

There was some decline in freight traffic in 1968, but an improvement could be seen in the early months of 1969.

Spain

The decline in traffic partly offset the increase achieved in 1967 and brought the total back to its 1967 level. This drop can be attributed to the economic situation and growing competition from road transport.

France

With a high level in the first four months of the year and a distinct recovery in the Autumn, freight traffic in 1968 was, on balance, slightly higher than in 1967 despite the work stoppages in May and June. The upward trend continued throughout 1969. In the case of iron and steel products it was particularly strong.

United Kingdom

The increase in traffic is due to an improved demand for coal and coke (which had been particularly depressed in 1967

when economic factors and mild weather reduced the markets for coal) and to the strong revival of activity in the iron and steel industry. There was also a big increase in oil traffic carried under agreements with the major oil companies, a general improvement in the earths and stone traffics, and continued expansion of freightliners. In the early months of 1969, a decline in coal traffic was more than offset by buoyancy in iron and steel and further growth in oil traffic.

Ireland

The increased freight in 1968 can be accounted for by increased carryings of the following traffic:

a) beet;

b) petrol and oil;

c) ores.

On the other hand, there was a marked decrease in fertilizer traffic owing to foreign dumping on the Irish market. Compared with the corresponding period in 1968, the first three months of 1969 showed a small increase in traffic. The main items attributing to this increase are: fertilizers (restrictions having been imposed on foreign imports), heavy ground limestone and sundries. There were, however, significant reductions in carryings of cement (decline in exports to Northern Ireland), livestock (late Spring causing a shortage of grass) and chilled meat.

Italy

Freight traffic showed a slight improvement as compared with 1967. Tons carried rose by 0.5 per cent and ton-km by 0.6 per cent.

In the first two months of 1969, on the other hand, tons carried dropped by 6.2 per cent and ton-km by 1.2 per cent.

Luxembourg

Freight traffic in 1968 was favourably affected by the better conditions prevailing in the iron and steel industry and by the growing flow of traffic to and from the port of Mertert (Moselle). The first three months of 1969 show a rising trend.

Norway

The following figures cover transport of iron ore on the Ofoten Line:

	YEAR 1968	PERCENTAGE CHANGE 1968-1967	YEAR 1963
Tons carried (million)	21.3	12.3	8.4
Ton-km (million)	853.5	12.3	334.2

Despite competition from road transport, wagon-load traffic shows an upward trend in recent years. The improved results on the Ofoten Line are due to changes on the ore market.

Netherlands

The volume of freight traffic was roughly the same as the year before. Despite a steady decline in coal carryings, bulk traffics are increasing. Wagon-load traffic concentrated on the fast-expanding ports and industrial centres. International wagon-load traffic is also rising. TEEM train traffic increased by 13 per cent. The volume of traffic carried in unit trains was 37 per cent up on the previous year. 20,000 containers were carried during the year, five times as many as in 1967. Smalls traffic is subject to a new procedure whereby a forwarding agency and road haulage subsidiary - Van Gend & Loos - is in principle given complete control and responsibility. This new arrangement has proved satisfactory.

Portugal

The trend seems to be towards stabilization at much the same level as in 1963-64.

Sweden

Freight traffic reached the highest level yet attained both in terms of tons carried and ton-km. The increase on the previous record year (1965) is entirely due to carryings of Lapland ores. Wagon-load traffics (excluding Lapland ores) were at a very low ebb in the second half of 1967, but took an upward trend in 1968 and the improvement continued in 1969. This was due to the general revival of economic activity. In addition, some rough timber consignments were rail-hauled instead of being floated down river. International wagon-load traffic is still rising. In 1968, about 17 per cent of all traffic in wagon-load lots consisted of consignments to other

countries and accounted for just over 25 per cent of the total number of ton-km.

Traffic carried by container and trailer expanded fast, but still accounts for less than 1 per cent of total wagon-loads.

In 1968, Lapland ore traffic increased by about 20 per cent. An increase of 5 per cent is expected for this year.

Switzerland

Freight carryings reached a record level but, because of strikes in France and Italy, were not quite up to the forecasts. Inbound, outbound and domestic traffics all showed substantial increases. In the case of domestic traffics, this was partly accounted for by consignments from the Collombey and Cressier refineries. The revival of building activity was another stimulating factor in this respect. On the other hand, transit traffic rose by only 1.6 per cent - a much smaller percentage than in previous years. Strikes were not the only reason for this drop; Italian imports of coal and ferrous scrap fell as a consequence of structural changes in the Italian economy.

During the first quarter of 1969, freight traffic (inbound, outbound and domestic) increased by 5 per cent as compared with the corresponding year of 1968 but transit traffic levelled off.

Turkey

The following measures were taken to win back traffics that were drifting to motor transport:

a) reduced charges;

b) measures to increase transit traffic;

c) individual contracts entered into beforehand.

In addition, a door-to-door container transport service began on 1st March, 1968.

Freight carryings and revenues in the early months showed an increase on the corresponding period of 1968.

CHAPTER III

ROADS

A. TRANSPORT TRENDS

1. Road traffic

Information on road traffic was supplied by twelve countries. An attempt has been made to group the figures for 1968 in the table that follows, but because of the numerous statistical gaps and discrepancies it is not possible to present a valid overall summary of results.

2. Traffic flows for selected bridges, tunnels, etc.

FRANCE:

Mont Blanc Tunnel

light vehicles:	529,000
coaches:	11,000
lorries:	77,000
	617,000

of which 259,000 in July and August. 48% French vehicles, 30% Italian vehicles. Slight decrease in light vehicles traffic, heavy increase in lorry traffic.

UNITED KINGDOM

Forth Road Bridge (opened in September 1964)

Traffic in 1968: 6,011,707 vehicles

Tay Road Bridge (opened in August 1966)

Traffic in 1968: 2,708,670 vehicles.

SWITZERLAND:

		1967	1968
Motor vehicle traffic through railway tunnels			
St. Gothard	cars	550,828	401,728
	coaches	5,047	3,665
	lorries	18,900	8,574
Simplon	cars	111,805	123,303
	coaches	123	111
	lorries	105	89
Loetschberg	cars	121,900	139,108
	coaches	504	645
	lorries	1,387	1,551
Motor vehicle traffic through the Grand-Saint-Bernard road tunnel			
	cars	283,444	311,520
	coaches and lorries	23,463	23,404

B. NUMBER OF VEHICLES

1. Trend of motor vehicle numbers

The following particulars relate to the motor vehicle population excluding trailers and semi-trailers.

Table 1 shows the motor vehicle numbers for the year 1968.

For the 15 countries[1] which have supplied figures for the past three years, the general trend is as follows:

1. The 18 ECMT countries except Greece, Netherlands and Yugoslavia.

ROAD TRAFFIC - YEAR 1968 UNIT: MILLION	GERMANY	AUSTRIA	DENMARK	SPAIN	FRANCE	GREECE	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	GREAT BRITAIN	SWITZERLAND	TURKEY
Passenger traffic													
a) Domestic traffic													
passenger carried:													
of whom by private cars ..						1,229			1,273				47,200[7-8]
" " public transport vehicles .	3,800									0.705		38.139	60,600[7]
distance travelled (passenger/km)	344,500			62,670					12,575	16,179	339,901		30,650
of which by private cars ..	302,000									12,177	280,801		
" " public transport	42,500									4,002	59,100		
distance travelled (vehicle/km)			14,480										
of which by private cars ..			14,230								145,493		1,695[6-4]
" " public transport vehicles .			250		1,100						3,817		515[6-4]
b) International traffic													
incoming vehicles	73,939											30.205	
of which private cars	73.1											30.128	
public transport vehicles	0.839											0.077	
number of runs					0.018[5]								
incoming passengers					5					2.498		2.469[5]	
outgoing passengers										2.484			
Goods traffic													
a) Domestic traffic													
tonnage carried	152.4	87.4[1]			1,150		7.437[4]	276.4[4]	199.5		1,575		26.9
distance travelled (ton/km)	37,800	1,942[2]		45,000	52,000		120.877[4]	11,083.0[4]	3,610	2,300	71,900		14,080
distance travelled (vehicle/km)		336.7[3]	5,010					-					1,885[6-4]
b) International traffic													
tonnage imported	19.6	2.924						13.7		49.229		5.502	
tonnage exported	14.7	3.017						12.5		268.763		0.828	
tonnage in transit	2.0	2.625						2.1				0.155	
total tonnage transported .	36.3	8.566			3.3		1.324[4]	28.3					
number of hauls					0.180			-					

1. For hire or reward.
2. Long-distance (80 km).
3. Short distance.
4. Year 1967.
5. By coach.
6. Non-urban.
7. 1966.
8. Including commercial vehicles.
9. Estimates.

C: cars
B: buses and coaches
L: lorries and road tractors

NUMBER	C	B	L	COMBINED
1966	45,619,799	285,475	7,566,781	53,472,055
1967	49,880,783	314,211	7,874,347	58,069,341
1968	53,790,707	330,339	8,187,651	62,308,697
Percentage increase				
1967-66 ...	9.3	10.0	4.0	8.6
1968-67 ...	7.8	5.1	3.9	7.3

The figures show that for these countries the rate of increase, although still high, is gradually slowing down in the aggregate.

2. Capacity of goods vehicles (lorries, trailers and semi-trailers)

The figures compiled are shown in Table 2, the corresponding percentages in Table 3 and the average payload by category in Table 4.

For the five countries which supplied figures for 1967 and 1968 (Austria, Belgium, France, Germany and Sweden) the change in the relative position of each category of vehicle is as follows:

PAYLOAD CATEGORY	AVERAGE PAYLOAD		PERCENTAGE OF:			
			NUMBER OF VEHICLES		TOTAL CAPACITY	
	1967	1968	1967	1968	1967	1968
0 to 1.9 tons	1.004	1.054	61.3	61.1	20.6	21.4
2 to 9.9 tons	4.521	4.443	32.0	31.7	48.4	46.8
10 tons and over .	13.836	13.196	6.7	7.2	31.0	31.8
All categories ...	2.986	3.005	100.0	100.0	100.0	100.0

The average payload for all categories of vehicles combined can be said to be unchanged.

Moreover, the drift towards heavy tonnage vehicles, noted in previous reports, is now considerably less pronounced.

3. Two-wheeled motor vehicles

The information received on this subject is given in Table 5.

11 countries gave figures for motor cycles under 50 cc; 13 countries for motor cycles over 50 cc; and 14 countries the total number of motor cycles in both categories.

By comparison with the figures supplied by these countries for the year 1967, there is seen to be a decrease in both categories.

The number of motor cycles of 50 cc and under has fallen by 3.7% in 9 countries;

in Italy it is down by 11%.[1] That of motor cycles over 50 cc is down by 11% (12 countries).[2] In the aggregate, the decline is particularly marked in France (350,000 vehicles). In Portugal, on the other hand, the number of two-wheeled motor vehicles has risen by 8%.

C. DEVELOPMENT OF ROAD INFRASTRUCTURE

1. Motorways in service

Other than in the case of Yugoslavia, the table shows the aggregate length of motorways in service in each country at the end of 1968 and the progress made since the previous year.

In the 17 countries considered 1,111 km of motorways came into service in 1968 (compared with 998 km in 1967).

2. International network

The "E" network is defined only by the names of places served by each route. No obligation is laid down as to the category (i.e. width) of the roads that it comprises. This is left to each country to decide in the light of its own requirements, but most countries have found it necessary to draw up a development programme providing:

- either for the improvement of existing roads to bring them up to international standards;
- or the construction on different alignments of entirely new trunk roads, usually motorways, which are only partly in existence at present. Obviously, these new trunk roads can be integrated only gradually into the "E" network as and when they can be substituted for existing roads without this involving any break in the route to which they belong.

The following distinction must therefore be borne in mind:

- the existing network, meaning the unbroken routes at present constituting, whether on a permanent or provisional basis, the international network;
- the future network, meaning the "theoretical" network defined above, which comprises some sections not yet built and others which are not necessarily integrated in the existing network.

Tables 7, 8 and 9 respectively give the following figures for 1968:

- length of existing international network;
- length of this network conforming to standard;
- length of sections regarded as being of adequate capacity.

Information was received from all countries except Italy, Turkey and Yugoslavia. Comparison with the 1967 figures shows that for the other 15 countries the length of the international network in service has increased by 1,969 km, owing to the incorporation of new routes by certain countries (notably Germany and Norway), and that the total length of motorways in service has grown by 712 km, of which 387 km in Germany and 157 km in France. Given that the corresponding increase for these same countries in 1967 was 445 km, remarkable progress has been made.

The overall length of road sections of adequate capacity has likewise increased: in 1968 it accounted for 77% of the whole as against 74% in 1967. With regard to motorways, 95% of the total length is regarded as adequate compared with 89% in 1967.

The degree of standardization in the ECMT countries (with the exception of Greece, Italy, Spain, Sweden, Turkey and Yugoslavia) declined from 66 to 65%.

Table 10 concerns the future network, showing its overall length and present degree of completion. In the nine countries for which comparison is possible (Austria, Belgium, France, Germany, Luxembourg, Netherlands, Norway, Portugal and Switzerland) the overall degree of completion stands at 44% as compared with 43% in 1967, although the total length of the future network itself has increased by 528 km in those same countries.

3. Investment

The information that could be collected on this subject is shown in Table 11.

1. Austria, Belgium, France, Germany, Luxembourg, Norway, United Kingdom, Switzerland and Ireland.
2. Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, Norway, Switzerland, Sweden, Spain and United Kingdom.

Investments in the international network by the 15 countries supplying information were up by 2.4% in 1967, but fell short of the forecasts by some 10%.

Meanwhile, as far as one can judge from the few statistics available, the estimates for 1969 exceed actual expenditure in 1968 by about 5%.

The 1969 investment forecasts for the combined networks of 14 countries are up by 4.4% on those for 1968.

Investments in the international network in 1969 are expected to account for 23.4% of the total, compared with 21.7% in 1968.

4. Present developments on main European arteries

E1. United Kingdom - Italy (3,095 km)

In France 104 km of new motorway came into service. The sections concerned were the following: Vieux Rouen-Chaufour (32 km), Anse-Nord de Lyon (12 km) and Montélimar-Nord d'Orange (60 km). There are at present 627 km of motorway on this route as compared with 523 km in 1967. Another 194 km of motorway are under construction and, of these, 141 km are expected to be completed in 1969.

E2. United Kingdom - Italy (Brindisi) - (2,233 km)

In Switzerland another 27 km are being added to the existing 13 km of motorway on this route.

In France the Dôle by-pass is expected to come into service in 1969.

E3. Portugal - Sweden (3,586 km)

In France 13 km of motorway are under construction of which 6 km (Tours by-pass) are expected to be completed in 1969. There are already 253 km of motorway on this route.

In Belgium work on the Scheldt Tunnel at Antwerp continued. The partially completed tunnel, with 7 km of motorway at either end, was opened to traffic on 31st May, 1969. Work is also proceeding over a large part of the future E3 route.

In the Netherlands 25 km of motorway are now in service. The section between Veldhoven and Aalst was put into service as a motorway. Work is proceeding on the construction of the Zuid Willems vaart - Venlo section, expected to be completed in 1969.

In Germany a 206 km motorway linking Bremen and Kamen and constituting a new alignment of the E3 came into service, thus reducing the total length of E3 motorways in service from 410 km in 1967 to 397 km in 1968: since the new route no longer follows the Dortmund-Hanover-Hamburg link, the respective lengths of the E4, E8 and E78 motorways have been increased by the former sections of the E3 (the E4 by 123.1 km; the E8 by 62 km; and the E78 by 71.3 km). Two sections of motorway are under construction: the Hamburg-Flensburg link, including a tunnel under the Elbe, which is expected to be completed in 1975, and the Moers-Oberhausen-Cologne link (15 km).

In Denmark work proceeded on the six-lane tunnel under the Limfjord in 1968 (the tunnel was opened in May 1969). A 10 km section of motorway is under construction around the town of Randers.

In Sweden 28 km of motorway are in service, this being 3 km more than in 1967. Work amounting to $ 13.6 million is in progress.

E4. Portugal - Finland (4,883 km)

In France 39 km of new motorway have come into service. The sections concerned are Montpellier-Nîmes (33 km), the West and South Grenoble ring road (6 km). There are now 91 km of motorway in service on this route.

In Switzerland 40 km of motorway are under construction on this route, 120 km being already in service.

In Germany the total length of motorway in service has increased from 738 km to 861 km following incorporation of the former section of E3. Another 10 km are under construction north of Lübeck.

In Denmark 57 km of motorway are now in service, as against 50 km in 1967. A section of 40 km of motorway is under construction between Copenhagen and Koge.

In Sweden 132 km of motorway are open to traffic, i.e. 9 km more than in 1967. Work amounting to over $ 41.8 million is in progress at various points.

E5. United Kingdom - Turkey (4,085 km)

In Belgium construction of the

Brussels-Liège motorway (90 km) has begun at either end.

In Germany 520 km of motorway are in service; a further 51 km are under construction between Nürnberg and Parsberg.

E6. Italy - Norway (2,485 km)

In Austria 33 km of motorway are now in service, i.e. 16.8 km more than in 1967. Among others, the Matrei-Steinach-Brenner section (13.5 km) came into service. Brennerpass-Brennersee section (1.7 km) is still under construction.

In Germany 308 km of motorway are now in service. 37 km are under construction between Wolfratshausen and Ohlstadt.

In Sweden 109 km of motorway are in service, i.e. 9 km more than in 1967.

In Norway the E6 route has been extended towards North Stjordalshalsen at Vollau, so that its length is now 1,784 km instead of 700 km. 32 km of motorway are now in service, as against 27 km in 1967, and work is proceeding over another 39.3 km.

E7. Italy - Poland (1,256 km)

In Austria 49.6 km of motorway are now in service. Two sections of motorway are under construction: these are Gleisdorf-Graz-Litboch (36.7 km) and Klagenfurt-Wernberg (29.1 km).

E8. United Kingdom - Poland (610 km)

In the Netherlands 80 km of motorway are in service. The Oudenrijn "clover leaf" at the junction of the E8, E9 and E36 motorways came into service in 1968.

In Germany 152 km of motorway are now in service, compared with 90 km in 1967. This is due to the incorporation of the section that was formerly part of the E3.

E9. Italy - Netherlands (1,217 km)

In Switzerland 30 km of motorway are now in service, this being 12 km more than in 1967. Another 28 km are under construction.

In France 41 km of motorway are now in service, as against 38 km in 1967. Work is in progress in the vicinity of Strasbourg (3 km) and between Habsheim and Bartenheim (14 km); this last section is expected to be completed in 1969.

In the Netherlands 139 km of motorway are now in service, as compared with 132 km in 1967. The "clover leaf" joining the E9 and E39 at Kerensheide came into service in 1968, as did the southern part of the 's-Hertogenbosch by pass.

E10. France - Netherlands (546 km

In Belgium 14 km of motorway between Drogenbos and Wauthier-Braine are under construction. The Drogenbos-Hal section (8.5 km) was opened to traffic on 22nd May, 1969.

In the Netherlands 111 km of motorway are in service. Works extending over 15 km are in progress to provide a second carriageway on the main dyke of the old Zuiderzee. This section will come into service in 1969.

E12. Paris - Sarrebrücken - Nürnberg (623 km)

In France 47 km of motorway are under construction: 4 km between Freyming and Sarrebrücken, due for completion in 1969, and 43 km on the Metz-Freyming section.

In Germany 204 km of motorway are now open to traffic, as compared with 143 km in 1967. Another 138 km are under construction between Heilbronn and Nürnberg and 54 km between Nürnberg and Amberg.

E14. Trieste - Szczecin (555 km)

In Austria this route now comprises 143 km of motorway, as against 137 km in 1967. Two sections are under construction: Niederalm-Hallein (6.6 km) and Kuchl-Golling (5.9 km).

E17. Chagny (France) - Salzburg (Austria) (799 km)

In Switzerland 45 km of motorway are now in service, i.e. 13 km more than in 1967. Another 80 km are under construction.

In Austria 10.5 km of motorway were opened to traffic. A further 48.1 km are under construction, of which the Wiesing-Volders section (24.7 km) in the Inn Valley, the Dornbin-Götzis section (16.3 km) and the Bludenz West-Bludenz East section (5.1 km).

E18. Stavanger - Oslo - Stockholm (1,063 km)

In Norway 22 km of motorway are in service and 27.1 km under construction.

In Sweden 18 km of motorway are open to traffic. Work amounting to $ 8 million is now in progress.

E31. London - Glasgow (637 km)

This route now comprises 77.2 km of motorway, i.e. 15.6 km more than in 1967. Several sections are under construction: the Penrith-Carlisle section, the Carlisle by-pass, the Carville-Chester-le-Street section and the Birtley by-pass.

E35. Amsterdam - Hamburg

In the Netherlands 87 km of motorway are now in service, as compared with 78 km in 1967. The Assen-Groningen section has been opened to traffic. Work on the Ijssel bridge near Zwolle is proceeding.

E37. Breda - Gorinchem (Netherlands - 57 km)

The total length of motorway now in service on this route is 51 km, as against 47 km in 1967; the Keisersveer-Niewendijk section has been opened to traffic.

E38. Breda - Einhoven (Netherlands - 50 km)

There are now 27 km of motorway in service on this route. Work has begun on a new 21 km section of motorway between Tilburg and Breda.

E39. Antwerp - Aix-la-Chapelle

In Belgium 64 km of motorway are in service on this route. The extension to Aix-la-Chapelle is under construction.

In the Netherlands 12 km of motorway are now in service, compared with 9 km in 1967. The E39-E9 link has been completed.

In Germany the Aachen-North by-pass (10 km) is under construction; 48 km of motorway are now open to traffic.

E40. Brussels - Marche (Belgium - 105 km)

Construction of the bridge over the Meuse north of Namur is proceeding. Work has also begun on the urban motorway to the Brussels conurbation.

E41. Calais - Liège

In Belgium a 38 km section is now in service between Fleurus and Havré (Mons). The Loncin interchange at the junction of the E5, E41 and the Liège-Antwerp section is now open to traffic; it comprises 34 km of motorway.

E61. Bellinzona - Munich (399 km)

In Switzerland 65 km of motorway are in service; another 6 km of motorway are under construction.

E63. Hamm - Dresden (224 km)

A 150 km motorway linking the Ruhr area with Kassel is under construction; it is expected to be completed in 1971.

E66. Copenhagen - Esbjerg (279 km)

There are now 48 km of motorway in service on this route, as compared with 36 km in 1967. A 6-lane motorway bridge between the Isle of Fyn and Jutland together with 34 km of approach motorway are under construction.

E70. Winterthur - Stuttgart-Herleshausen (561 km)

In Switzerland 5 km of motorway were opened in 1968 and another 5 km are under construction. There are now 29 km of motorway on this route and only 5 km more need to be added before the route is all motorway.

In Germany 230 km of motorway are now in service, as against 85 km in 1967. In addition, 78 km of motorway are under construction between Würzburg and Heilbronn and 127 km between Stuttgart and Singen.

E69. Dombas - Alesund (Norway) (238 km)

On each of these routes 10 km of motorway are under construction.

E76. Drammen - Haugesund (Norway)

E78. Helligskogen - Vollan - Trom

These two highways were incorporated in the international network in December 1968.

E86. Wörgl - Rosenheim (41 km)

In Austria this route comprises 5.7 km of motorway; these came into service in 1968.

In Germany there are now 25 km of motorway in service, as opposed to 22 km in 1967.

5. Work in progress on roads outside the E network

In Germany 183 km of motorway are under construction between Dortmund and Giessen, 336 km between Krefeld and Ludwigshafen, 93 km between Trier and Landstuhl, 61 km between Ulm and Memmingen, 61 km between Cologne and Olpe, 99 km between Koblenz, Trier and the Luxembourg frontier and 16 km between Weinheim and Heidelberg, making 849 km in all.

In France major road construction schemes were continued in 1968 in order to relieve traffic congestion in and around major conurbations (Fourvières Tunnel at Lyons, the Caronte Viaduct West of Marseilles, the North Nancy motorway, the East Lille motorway to Ascq, the West Metz ring road, the North Strasbourg motorway, the Lyons-Saint Etienne motorway via Givors, extension of the East Toulon motorway, widening of the South Paris motorway, Paris peripheral motorway).

In Luxembourg work is in progress on an expressway (part of which will be a motorway) between the town of Luxembourg and Esch-Alzette.

In the Netherlands reconstruction work is in progress in the form of a motorway on national trunk road 15 and the Middelbourg-Goes section of national trunk road 58; also, several major river crossings are under construction.

In the United Kingdom a number of construction projects are in progress; the Glasgow by-pass, a 10 km section of motorway at the north end of the M74 motorway and a bridge over the river Clyde west of Glasgow.

D. FUEL CONSUMPTION

The figures collected on this item are shown in Table 12. Roughly speaking, they seem fairly homogeneous when compared with vehicle population. For all categories combined, average annual fuel consumption works out at 1.7 tons per vehicle.

Table 1. YEAR 1968 - END OF YEAR FIGURES

Numbers of motor vehicles (percentages shown in brackets)

EEC countries are underlined

COUNTRY	CARS	BUSES	LORRIES[1]	TOTAL
1. Germany	12,052,798(91.4)	42,728 (0.3)	1,098,041 (8.3)	13,193,567
2. Austria	1,056,290(89.7)	6,429 (0.6)	114,492 (9.7)	1,177,211
3. Belgium	1,813,099(90.4)	14,445 (0.7)	178,301 (8.9)	2,005,845
4. Denmark	955,337(78.7)	4,490 (0.3)	254,226(21.0)	1,214,053
5. Spain	1,633,973(72.4)	27,195 (1.2)	597,117(26.4)	2,258,285
6. France	12,000,000(83.0)	53,000 (0.4)	2,400,000(16.6)	14,453,000
7. Greece	169,000(63.6)	9,700 (3.6)	87,000(32.8)	265,700
8. Italy	8,178,505(87.4)	35,420 (0.5)	1,136,487(12.1)	9,350,412
9. Luxembourg ...	77,995(86.6)	550 (0.6)	11,558(12.8)	90,103
10. Norway	619,039(81.6)	7,100 (0.9)	133,033(17.5)	759,172
11. Netherlands ..				
12. Portugal	449,695(85.2)	4,855 (0.9)	73,010(13.9)	527,560
13. United Kingdom	11,237,000(86.1)	83,000 (0.6)	1,728,000(13.3)	13,048,000
14. Sweden	2,072,214(93.2)	11,666 (0.5)	138,762 (6.3)	2,222,642
15. Switzerland ...	1,180,474(90.6)	4,628 (0.3)	117,963 (9.1)	1,303,065
16. Turkey	123,375(47.4)	32,915(12.5)	106,057(40.1)	264,347
17. Yugoslavia ...				
18. Ireland	340,913(76.9)	1,918 (0.4)	100,773(22.7)	443,604
ECMT	53,958,707(86.2)	340,039 (0.6)	8,274,820(13.2)	62,576,566
EEC				

1. This column covers only road motor vehicles, excluding farm tractors, trailers and semi-trailers.

Table 2. YEAR 1968 - GOODS VEHICLES - BREAKDOWN BY CATEGORY AND TOTAL CAPACITY

N = Number of vehicles

TC = Total capacity (payload in tons)

COUNTRY	FROM 0 TO 1.9 TONS		FROM 2 TO 9.9 TONS		10 TONS AND OVER		TOTAL	
	N	TC	N	TC	N	TC	N	TC
1. Germany	775,009	764,226	472,636	2,424,947	99,874	1,438,260	1,347,519	4,627,433
2. Austria	74,110	74,110	99,353	496,765	6,974	90,662	180,437	661,537
3. Belgium	107,886	99,707	71,551	364,914	20,760	341,513	200,197	806,134
4. Denmark	166,441		78,527		30,154		275,122	394,000
5. Spain	1		1		37,886		606,879	
6. France	1,813,000	2,002,000	785,000	2,998,000	182,000	2,200,000	2,780,000	7,200,000
7. Greece	52,000	40,000	33,600	145,500	1,400	19,500	87,000	205,000
8. Italy								
9. Luxembourg	2		2		2		11,058	
10. Norway	120,245		51,511		3,610		175,366[3]	
11. Netherlands								
12. Portugal								
13. United Kingdom[4]	974,000	645,000	439,000	2,519,000	152,000	2,285,000	1,565,000	5,449,000
14. Sweden	109,285	95,496	63,595	344,712	31,059	424,922	203,939	865,130
15. Switzerland	64,123	68,290	34,748	209,541	73	797	98,944[5]	278,628[5]
16. Turkey[8]	32,544[9]		64,272[10]				144,444[6]	418,828[6]
17. Yugoslavia							96,816[11]	
18. Ireland								
Total[7]	3,969,413	3,788,829	1,999,483	9,503,379	494,140	6,800,654	6,463,036	20,092,862

1. Spain: from 0 to 9.9 tons: 568,933 vehicles.
2. Luxembourg: 7,273 vehicles up to 3,500 kg and 3,885 vehicles over 3,500 kg maximum authorised weight.
3. Norway: plus 236 lorries and 8,237 trailers of unspecified capacity.
4. United Kingdom: trailers and semi-trailers excluded.
5. Switzerland: less trailers and semi-trailers.
6. Switzerland: including trailers and semi-trailers.
7. Total for eight countries: Germany, Austria, Belgium, France, Greece, United Kingdom, Sweden, Switzerland 5.
8. 1967.
9. Including 2-2.5 t.
10. Including 10 t. and more.
11. Turkey: together.

Table 3. YEAR 1968 - GOODS VEHICLES

Number (N) and total capacity (TC) of each category of vehicle as a percentage of all categories combined

PAYLOAD	FROM 0 TO 1.9 TONS		FROM 2 TO 9.9 TONS		10 TONS AND OVER	
COUNTRY	N	TC	N	TC	N	TC
1. Germany	57.5	16.5	35.1	52.4	7.4	31.1
2. Austria	41.1	11.2	55.0	75.1	3.9	13.7
3. Belgium	53.9	12.4	35.7	45.3	10.4	42.3
4. Denmark	60.3		28.7		11.0	
5. Spain					6.2	
6. France	65.2	27.8	28.2	41.6	6.6	30.6
7. Greece	59.8	19.5	38.6	71.0	1.6	9.5
8. Italy						
9. Luxembourg						
10. Norway	68.2		29.5		2.3	
11. Netherlands						
12. Portugal						
13. United Kingdom	62.2	11.9	28.1	46.2	9.7	41.9
14. Sweden	53.6	11.0	31.2	39.9	15.2	49.1
15. Switzerland[1]	64.8	24.5	35.1	75.2	0.1	0.3
16. Turkey	33.6[4]		66.4[5]			
17. Yugoslavia						
18. Ireland						
Average[2]	61.4	18.9	30.9	47.3	7.7	33.8

1. Switzerland: trailers and semi-trailers excluded.
2. Averages for eight countries: Germany, Austria, Belgium, France, Greece, United Kingdom, Sweden, Switzerland.
3. 1967.
4. Including 2 - 2.5 t.
5. Including 10 t. and more.

Table 4. YEAR 1968 - AVERAGE PAYLOAD BY CATEGORY

(tons)

COUNTRY	FROM 0 TO 1.9 TONS	FROM 2 TO 9.9 TONS	10 TONS AND OVER	COMBINED
1. Germany	0.986	5.128	14.400	3.434
2. Austria	1.000	5.000	13.000	3.666
3. Belgium	0.924	5.100	16.505	4.027
4. Denmark				1.433
5. Spain				
6. France	1.104	3.819	12.088	2.590
7. Greece	0.77	4.32	13.92	2.36
8. Italy				
9. Luxembourg				
10. Norway				
11. Netherlands				
12. Portugal				
13. United Kingdom[1]	0.662	5.738	15.033	3.482
14. Sweden	0.874	5.420	13.681	4.242
15. Switzerland	1.065	6.030	10.918	(2.816)[2]
16. Turkey				(2.900)[3]
17. Yugoslavia				
18. Ireland				
Average	0.955	4.753	13.763	3.109[4]

1. United Kingdom: trailers and semi-trailers excluded.
2. Switzerland: trailers and semi-trailers excluded.
3. Switzerland: trailers and semi-trailers included.
4. Excluding Denmark.

Table 5. YEAR 1968 - TWO-WHEELED MOTOR VEHICLES

EEC countries are underlined

COUNTRY	CYLINDER CAPACITY UP TO 50 cc	CYLINDER CAPACITY OVER 50 cc	TOTAL
1. Germany	1,200,000	311,604	1,511,604
2. Austria	489,747	139,649	629,396
3. Belgium	370,716	59,532[1]	430,248
4. Denmark			57,475
5. Spain		1,279,902[2]	
6. France	4,500,000	150,000	4,650,000
7. Greece	400,000	62,000	462,000
8. Italy			
9. Luxembourg	8,500	4,939	13,439
10. Norway	127,830	46,244	174,074
11. Netherlands			
12. Portugal			51,479
13. United Kingdom	476,000	774,000	1,250,000
14. Sweden		44,267	
15. Switzerland	506,379	78,213	584,592
16. Turkey			
17. Yugoslavia			
18. Ireland[3]	30,455	13,513	43,968
ECMT	10,014,627 (11 countries)	4,327,863 (13 countries)	13,174,337 (14 countries)
EEC			

1. Under 250 cc.
2. Cylinder capacity of 50 cc and over, including three-wheeled vehicles.
3. Motorcycles under and over 75 cc.

Table 6. TOTAL LENGTH OF MOTORWAYS IN SERVICE

EEC countries are underlined

COUNTRY	1967	1968	MOTORWAYS PUT INTO SERVICE IN 1968
1. Germany	3,617	3,967	350
2. Austria	376	411	35
3. Belgium	339	376	37
4. Denmark	102	125	23
5. Spain	70	83	13
6. France	971	1,132	161
7. Greece	-	-	-
8. Italy	2,371	2,664	293
9. Luxembourg	-	-	-
10. Norway	49	54	5
11. Netherlands	718	790	72
12. Portugal	66	66	-
13. United Kingdom	807	855	48
14. Sweden	295	329	34
15. Switzerland	469	509	40
16. Turkey	-	-	-
17. Yugoslavia			
18. Ireland	-	-	-
ECMT	10,250	11,361	1,111
EEC	8,016	8,929	913

Table 7. EXISTING INTERNATIONAL NETWORK - TOTAL LENGTH
(End-of-year figures 1968)

EEC countries as underlined

COUNTRY	LENGTH BY CATEGORY (km)				TOTAL (km)
	A (MOTORWAYS)		II (MORE THAN 2 LANES)	I (2 LANES)	
	Km	% OF TOTAL			
1. Germany	3,554	57	168	2,395	6,117*
2. Austria	409	23	145	1,235	1,789
3. Belgium	261	24	471	376	1,108
4. Denmark	105	12	385	395	885
5. Spain	36	1	448	5,426	5,910
6. France	1,037	17	1,926	2,980	5,943
7. Greece	-	-	65	2,677	2,742
8. Italy					
9. Luxembourg	-	-	88	-	88
10. Norway	54	1	9	3,859	3,922*
11. Netherlands	632	48	98	594	1,324
12. Portugal	57	5	-	1,191	1,248
13. United Kingdom	318	20	826	1,485	1,629
14. Sweden	287	9	90	2,982	3,359
15. Switzerland	302	23	136	871	1,309
16. Turkey					
17. Yugoslavia					
18. Ireland	-		-	-	-
ECMT	7,052	19	4,855	25,466	37,373
EEC					

* Extension of the network due to inclusion of new routes.
1. 1967.
2. Excluding Turkey.

Table 8. DEVELOPMENT OF EXISTING INTERNATIONAL NETWORK

Length standardized and degree of standardization (end of 1968)

EEC countries are underlined

COUNTRY	CATEGORIES						TOTAL LENGTH STANDARDISATION (Km)	OVERALL DEGREE OF STANDARDISATION (%)
	A		II		I			
	Km	%	Km	%	Km	%		
1. Germany	3,554	100	136	81	1,417	59	5,107	83
2. Austria	409	100	89	61	649	53	1,147	64
3. Belgium	261	100	292	62	191	51	744	67
4. Denmark	99	94	373	97	271	67	743	84
5. Spain	36	100	261	58	3,215	59	3,512	59
6. France	1,037	100	977	51	2,784	93	4,798	81
7. Greece	-	-	65	100	1,182	44	1,247	45
8. Italy								
9. Luxembourg ..	-	-	88	100	-	-	88	100
10. Norway	23	42	-	-	1,107	29	1,130	29
11. Netherlands ..	632	100	84	86	485	82	1,201	91
12. Portugal	57	100	-	-	428	36	485	39
13. United Kingdom	315	99	610	83	155	32	1,080	66
14. Sweden	287	100	90	100	2,612	88	2,989	89
15. Switzerland ..	201	66	90	66	671	77	962	73
16. Turkey			69	1	5,895	99	5,964	87
17. Yugoslavia ...								
18. Ireland	-	-	-	-	-	-	-	-
ECMT	6,911	98	3,155	65	15,167	60	25,233	68
EEC								

1. 1967.
2. Excluding Turkey.

Table 9. EXISTING INTERNATIONAL NETWORK

Length and percentage of sections of adequate capacity (end of 1968)

EEC countries are underlined

COUNTRY	CATEGORY						COMBINED (Km)	% OF TOTAL NETWORK
	A		II		I			
	Km	%	Km	%	Km	%		
1. Germany	3,300	93	112	67	1,786	75	5,198	85
2. Austria	409	100	140	97	1,072	87	1,621	91
3. Belgium	211	81	297	63	282	75	790	71
4. Denmark	99	94	89	23	254	64	442	50
5. Spain	36	100	350	78	5,114	94	5,500	92
6. France	1,037	100	540	28	1,815	61	3,392	57
7. Greece								
8. Italy								
9. Luxembourg ..	-	-	88	100	-	-	88	100
10. Norway	52	96	-	-	3,702	96	3,754	96
11. Netherlands ...	603	95	48	49	349	59	1,000	76
12. Portugal	57	100	-	-	428	36	485	39
13. United Kingdom	311	98	490	59	246	51	1,047	64
14. Sweden							2,182	65
15. Switzerland ..	302	100	81	60	399	46	782	60
16. Turkey	-	-	59	1	6,431	99	6,490	95
17. Yugoslavia ...								
18. Ireland	-	-	-	-	-	-	-	-
ECMT	6,417	95	2,235	48	15,447	98	26,231	76
EEC								

1. 1967.
2. Excluding Turkey.

Table 10. FUTURE INTERNATIONAL NETWORK

a) Length of future network

b) Length already in service in its final form - position at end 1968

EEC countries are underlined

COUNTRY	CATEGORY A a	CATEGORY A b	CATEGORY II (MORE THAN 2 LANES) a	CATEGORY II (MORE THAN 2 LANES) b	CATEGORY I (2 LANES) a	CATEGORY I (2 LANES) b	TOTAL LENGTH (Km) a	TOTAL LENGTH (Km) b	OVERALL RATE OF COMPLETION %
1. Germany	5,243	3,526	136	58	561	561	5,940	4,145	70
2. Austria	1,568	409	105	12	48	28	1,721	449	26
3. Belgium	1,117	290	-	-	-	-	1,117	290	26
4. Denmark	628	99	81	35	117	117	826	251	30
5. Spain	663	36					(5,911)		
6. France	3,010	1,037	2,310	850	420	392	5,740	2,279	40
7. Greece									
8. Italy									
9. Luxembourg ..	-	-	88	88	-	-	88	88	100
10. Norway	141	23	9	0	3,780	1,107	3,930	1,130	29
11. Netherlands ..	1,254	592	85	3	10	8	1,349	603	45
12. Portugal	57	57	-	-	1,191	428	1,248	485	39
13. United Kingdom									
14. Sweden	1,350	287	18	17	1,991	1,991	3,359	2,295	68
15. Switzerland ..	1,025	315	13	4	226	92	1,264	411	33
16. Turkey[1]	-	-	69		6,661		6,730		
17. Yugoslavia ...									
18. Ireland									
ECMT[2]	16,056	6,671	2,845	1,067	8,344	4,724	26,582	12,426	47
EEC									

1. 1967.
2. Excluding Turkey.

Table 11. INVESTMENT ($ million)

EEC countries as underlined

COUNTRY	1968	FORECASTS FOR 1969	
	INTERNATIONAL NETWORK	INTERNATIONAL NETWORK	ENTIRE NETWORK
1. Germany	259.0	313.0	2,700.0
2. Austria	53.2	54.7	143.3
3. Belgium	205.0	282.0	367.0[1]
4. Denmark	50.0		
5. Spain	59.0	65.0	148.0
6. France	260.0	300.0	1,200.0
7. Greece	28.0	29.0	75.0
8. Italy			
9. Luxembourg	2.0	1.8	2.9
10. Norway	33.0	37.0	160.0
11. Netherlands	86.0	87.0	330.0
12. Portugal	1.0	2.5	21.5[1]
13. United Kingdom	78.5	212.0	964.0
14. Sweden	35.0	34.0	181.0
15. Switzerland	159.0	154.0	393.0
16. Turkey[2]	25.9		
17. Yugoslavia			
18. Ireland	-	-	39.0
Total	1,308.7	1,572.0	6,724.7

1. Municipal network not included.
2. Budget.

Table 12. YEAR 1968 - YEARLY CONSUMPTION OF MOTOR FUEL

(Million cubic meters)

COUNTRY	PETROL	GASOIL
1. Germany	17,200	6,500
2. Austria	1,777.5	538.5
3. Belgium	2,749	867
4. Denmark	1,753	441
5. Spain[1]	2,620	1,810
6. France	14,500	4,300
7. Greece		
8. Italy[1]		
9. Luxembourg[1]	120	55
10. Norway	965	529[1-2]
11. Netherlands		
12. Portugal		
13. United Kingdom[1]	17,600	5,340
14. Sweden	3,362	965
15. Switzerland[1]	2,354	565
16. Turkey[3]	658	1,264
17. Yugoslavia		
18. Ireland	708	174

1. Density adopted for conversion from weight to volume: petrol 0.74, gasoil 0.87.
2. Including consumption by railways and farm tractors.
3. Including all consumptions.

CHAPTER IV

INLAND WATERWAYS

I. TRANSPORT TRENDS

1. All countries under review

The trend of waterway traffic (in terms of tons carried) in the eight ECMT countries* in which it is on a sizeable scale may be summarised as follows:

TONS CARRIED

('000 tons)

YEAR	INTERNAL TRAFFIC	INTER-NATIONAL TRAFFIC	TOTAL
1962	237,252	104,613	341,865
1963	227,863	107,356	335,219
1964	267,185	118,122	385,330
1965	274,459	129,312	403,771
1966	278,225	140,104	418,329
1967	287,616	153,933	441,549
1968	299,983	173,001	472,984

This table shows that total inland waterway traffic has been rising steadily since 1963. The setback recorded in that year was due to heavy frost.

The increase in 1968 as compared with 1967 was over 31 million tons, or 7.1%. As compared with 1962, it amounts to 131.1 million tons, or 38.4%.

International traffic has risen more steeply than internal traffic since 1962 (65.4% as compared with 26.4%).

2. Remarks on the trend of traffic in various countries

Total freight traffic carried on inland waterways in the Federal Republic of Germany amounted to 233.3 million tons in 1968, i.e. 18.9 million tons, (8.8%) more than in 1967.

In terms of ton-km, traffic in 1968 amounted to 47,900 million, i.e. a relatively slight increase as compared with 1967 (2,100 million ton-km, or 4.7%). The average length of haul again declined, from 213.5 Km in 1967 to 205.4 km in 1968.

The basic reason for this decline is that the increase in traffic carried as compared with 1967 chiefly applies to international traffic which uses only relatively short stretches of the German waterways system. There was also a considerable decline in long-distance transport of mineral oils.

The total increase in waterway traffic in 1968 was made up as follows: international traffic: 12.6 million tons (exports 4.8 million and imports 7.8 million); traffic between ports situated in the Federal Republic: 5.5 million, and transit traffic: 0.8 million. The tonnage carried between the Federal Republic and Eastern Germany did not change as compared with 1967.

The increase in inbound freight is mainly due to bigger imports of ore (+ 5.7 million tons), metal products (+ 1.5 million tons) and building materials (+ 1.4 million tons). Imports of coal dropped by 0.9 million tons and imports of mineral oils by 0.5 million tons.

The increase in outbound traffic is chiefly accounted for by bigger exports of coal (+ 1.8 million tons). Transit traffic included the following increases: building materials, 0.6 million tons; ores and mineral oils, 0.2 million tons apiece.

As regards internal traffic classified by 2 million tons. Coal carryings increased by 0.7 million tons. After a drop of 5.7

* Federal Republic of Germany, Austria, Belgium, France, Italy, the Netherlands, Switzerland and Yugoslavia.

million tons in 1967 as compared with 1966, internal traffic practically recovered its 1966 level in 1968.

In Austria, traffic on the Danube increased considerably in 1968 and reached the record level of 8,066,580 tons, an increase of 25.6% on the previous year. A sizeable increase was also recorded in terms of ton-km, i.e. 1,284,800 million or 19.3%.

Imports accounted for the biggest increase (35.7%): carryings of solid fuel were 39.7% up and carryings of iron ore and ferrous scrap increased by 153.5%.

Export traffic increased by 22.7%, the main items being crude mineral products (excluding ores), chemicals and solid fuels.

After a distinct drop in 1967, internal traffic rose by 9.8% in 1968. This improvement was mainly due to increased carryings of crude oil and oil products. Transit traffic was 5.5% down on the previous year essentially because of the decline in transit traffic carried in Yugoslav and German craft.

By and large, 1968 was a good year for waterway transport and the results obtained were quite satisfactory.

Freight traffic on the Austrian stretches of the Danube seems likely to be satisfactory in 1969 too. The tonnage carried in the first five months of this year is up to the same level as for the corresponding period of 1968.

In the first six months of 1969, two Austrian operators, DDSG and COMOS, carried 60% more freight than in the first half of 1968. The main item accounting for this increase was iron ore imported from Brazil through German seaports (Hamburg and Brake) and then conveyed by combined transport to Linz.

In Belgium the total freight tonnage carried on inland waterways in 1968 increased by 9.4%.

Once again, the general improvement was mainly due to international traffic, which rose by 12%, while internal traffic increased by only 3.9%. This trend is similar to that recorded last year, but even more pronounced.

With few exceptions, the traffic figures show increases for all commodities.

Carryings of agricultural and food products are declining on internal routes, but imports of these commodities are rising.

Internal and export carryings of mineral fuels are still following a downward trend, whilst imports of mineral fuels and oil products are increasing.

These conflicting trends are due to the impact of the achievement of the Common Market on sources of grain supplies and to the now well familiar structural changes affecting the fuel and power sector.

Total traffic in terms of ton-km was 6.2% up on the previous year; here again, international traffic showed a bigger increase than internal traffic (7.9% and 3.5% respectively).

As regards the future outlook, the new figures for 1969 that are already available combined with the buoyancy of the economic situation, give reason to expect a sizeably better overall figure for waterway traffic than in 1968. The tendencies concerning certain traffics and certain categories of goods which were already noted last year - and the root causes of which are structural - will become even more pronounced.

In France, total traffic rose from 97.6 million tons in 1967 to 101.7 million tons in 1968 - an increase of 4.2% - whilst output in terms of ton-km rose from 12,960 million to 13,250 million, an increase of 2.2%.

Internal traffic rose by 1.1 million tons, i.e. 1.8%, import traffic by 0.7 million tons (+ 6.2%) and export traffic by 2.3 million tons (+ 12.7%). Transit traffic remained at the level reached in 1967.

Compared with 1967, practically all categories of freight show an increase, the exceptions being as follows:

- food stuffs, for which there is a drop of 140,000 tons (- 4.5%) but exports of this commodity rose by 122,000 tons;
- ores and ferrous scrap - traffic under this head has dropped by 124,000 tons (- 5.4%) as a consequence of the decline in transit via the Rhine.
- solid mineral fuels - the general decline in coal carryings, which has been apparent for some years, went on in 1968, and traffic under this head fell by 501,000 tons (- 5.5%). This drop in coal carryings was mainly restricted to internal traffic.

The freights which most contributed to traffic growth in 1968 were as follows:

- minerals and building materials: an increase of 3.4 million tons (+ 6.9%). Internal traffic rose by 1.7 million tons (+ 4.6 %), exports via the Rhine by 1.4

million tons (+ 20.6%) and exports via the Moselle by 0.3 million tons (47.8 %);

- agricultural products: compared with 1967, traffic under this head increased by 987,000 tons (+ 14%), grain exports having increased by 23%, grain traffic on internal routes also increased considerably (+ 14%);
- metal products: the decline in internal traffic for this commodity (- 171,000 tons) was entirely offset by increased exports via the Moselle (+ 0.1 million tons) and transit via the Rhine (+ 0.04 million tons), thus leaving a net increase of 15,000 tons, i.e. 1%.
- fertilizers: though imports show an increase of 14,849 tons (+ 80%) the overall net increase is only 36,736 tons (+ 1.6%) as internal traffic decreased by 110,036 tons and exports by 273,150 tons;
- oil products: traffic under this head rose by 270,000 tons + 1.6%);
- chemical products: traffic in this category increased by 68,000 tons (+ 3.1%) but was mainly restricted to imports and exports via the Rhine;
- machinery, vehicles, manufactured goods: the 101,000-ton increase (+ 21.3%) is largely due to larger consignments of motor vehicles via the Seine.

On the basis of the data available, total traffic in 1969 should amount to some 110 million tons, or 8% more than in 1968, this increase being mainly accounted for by bigger carryings of agricultural products and metal products.

In Italy, the total tonnage carried in 1968 was 3,951,560 tons, corresponding to 186,367,000 ton-km, with 47 km as the average length of haul.

The breakdown by type of craft was as follows: self-propelled craft (2,078,560 tons), pull-towed craft (842,000 tons) and push-towed craft (1,031,000 tons).

The outlook for 1969 indicates a slight increase in freight traffic.

In Luxembourg, internal traffic along the frontier stretch of the Moselle being of nil significance, traffic carried on this route consists mainly of freight in transit or, to a lesser degree, inbound or outbound freight to and from local trans-shipping points.

Data supplied by the Luxembourg administration would duplicate those given by the German and French authorities. Such data would also be incomplete because traffic moving downstream of the Port of Mertert, which lies at the downstream end of the frontier stretch, does not pass through any first-class loch on the frontier stretch and is not therefore recorded by the Luxembourg administration. It may be noted that freight transhipments at the river port of Mertert in 1968 amounted to 1.2 million tons.

On these grounds, information in respect of Luxembourg is either unavailable or would involve double-counting.

In the Netherlands, waterway traffic rose from 224.2 million tons in 1967 to 242.2 million tons in 1968 - an increase of 18 million tons (+ 8%). The increase in terms of ton-km during this same period was 8.7%. Internal traffic rose by 2.1 million tons (+ 2.3%).

International traffic rose from 131.5 million tons in 1967 to 147.7 million tons in 1968 - an increase of 12.1%. Export traffic rose by 12.3%, import traffic by 11.4% and transit by 7.8%.

Traffic on the Rhine increased by 10.8 million tons (10.9%) as compared with 1967. Total traffic in transit at the German-Netherland frontier on the Rhine reached a new peak in 1968, i.e. nearly 111 million tons.

Traffic moving downstream rose from 44.3 million tons in 1967 to 48.4 million tons in 1968 (an increase of 9.1%). The main items contributing to this increase were: stone, sand and gravel (+ 2.4 million tons), coal (+ 1.5 million tons) metal products (+ 0.5 million tons). Mineral oils (- 0.5 million tons) and pig-iron and crude steel (- 0.5 million tons) both declined.

Traffic moving upstream rose from 54.7 million tons in 1967 to 61.5 million tons in 1968 - an increase of 6.8 million tons (+ 12.4%). This increase was largely accounted for by iron ores (+ 5.6 million tons). Iron and steel also showed an increase (+ 1 million tons) but coal carryings dropped by 1 million tons.

The figures for Rhine traffic during the first 12 months of 1969 show an increase of 1.6 million tons as compared with the corresponding period of 1968.

In Switzerland traffic at the Bastle ports dropped slightly (by 100,000 tons) in 1968 as compared with 1967.

This minor decline is chiefly due to a decrease in coal carryings of about 85,000

tons as compared with 1967. Liquid fuels, on the other hand, increased by about 300,000 tons. Other freights varied slightly up or down.

Traffic to and from the Basle ports during the first half of the year was as follows:

(Unit: '000 tons)

	INBOUND	OUTBOUND	TOTAL
1968 ...	3,738	161	3,899
1969 ...	3,901	164	4,065

These figures show that traffic at the Basle ports during the first half of 1969 increased slightly (by about 4%) as compared with the corresponding period of 1968, This trend is likely to continue during the second half of 1969.

II. DEVELOPMENT OF THE FLEET

In 1968, the total capacity of the waterway fleet* fell by 104,781 tons (- 0.6%). The total number of craft dropped, by 1.2%, to 41,555.

In Germany, the capacity of carrying craft dropped by 22,700 tons, and the power rating of the tug fleet by 22,830 CV.

Dry-cargo dumb barges accounted for the biggest drop, i.e. 70,740 tons, mainly as a consequence of scrapping (44,100 tons) and motorisation (19,000 tons). The capacity of self-propelled fleet. The tanker fleet did not substantially change

The push-towed fleet has expanded considerably both with purpose-built and converted craft. By the end of 1968, another barge being added, it comprised 125 units with a total capacity of 158,081 tons.

In Austria, the first purpose-built push-towed barges came into service in 1968, though other craft suitable for push-towing were in use before this. The difficulties of push-towed navigation on the Austrian reaches of the Danube, with their fast currents and frequent sharp bends, account for the somewhat late adoption of this technique in Austria. The fleet has been reduced by three tugs (2,090 CV), ten dumb barges (6,719 tons) and one tanker-barge (1,048 tons).

Taken as a whole, the average tonnage of craft increased. There was a further decline in the number of barges during this period.

In Italy, the total number of craft assigned to freight transport rose from 744 at the end of 1967 to 773 on the 31st December, 1968 - an increase of 3.9%.

Self-propelled craft (excluding tanker vessels) account for 49% of the fleet, pull-towed barges (excluding tanker-barges) 41%; the balance (i.e. 10%) is made up as follows: push-towed barges 6%, self-propelled tankers 3% and tanker barges 1%.

The breakdown of payload capacity is as follows: self-propelled craft 48%, pull-towed barges 22% and push-towed barges 30%.

The following table shows the breakdown in real figures and percentages for each category:

SITUATION IN 1968	No.	%	PAYLOAD	%
Self-propelled craft (dry cargo)	379	49%	45,380	40%
Self-propelled tankers	24	3%	8,586	8%
Pull-towed barges	317	41%	23,950	21%
Tanker barges	9	1%	977	1%
Push-towed barges	31	4%	22,290	19%
Tanker barges	13	2%	12,800	11%
Total	773	100%	113,983	100

* Figures for Yugoslavia are not included.

It may be estimated that 28% of the self-propelled fleet is about five years old and accounts for 33% of the payload capacity of the 403 vessels classified in this category.

In the case of towed barges, on the other hand, it may be estimated that only 17% are five years old (i.e. five years in commission as from the date of construction) and that 36% have an average age ranging from 20 to 25 years and account for 33% of the payload capacity of all vessels in this category (326 units).

Where push-towed barges are concerned 72% are about five years old, 28% came into service in 1968 and account for 30% of the total payload capacity of this last category (44 units).

In France, the total number of craft fell from 7,776 units in 1967 to 7,532 in 1968 - a drop of 3.2%.

The payload capacity of the fleet fell by 2.2% during this period from 3,168,000 tons to 3,098,000 tons. The fact that capacity has declined to a smaller degree than the total number of craft indicates the replacement of small craft by larger vessels.

The number of self-propelled craft fell from 5,784 in 1967 to 5,677 in 1968. This drop, i.e. 1.8%, is smaller than that recorded for the fleet as a whole.

The number of pull-towed and push-towed barges dropped from 1,992 in 1967 to 1,855 in 1968 - a decrease of 7.4%.

In the Netherlands, the total number of carrying craft decreased. This was due to scrapping and motorisation.

The total number and payload capacity of towed barges also fell, as did the total number of tugs.

Against this, there was an increase in the number and capacity of self-propelled craft.

As regards payload capacity according to category of craft, decreases for dumb barges are recorded in Belgium (as in Germany and Austria) as follows: 39,596 tons (- 8%), in France, 38,516 tons (- 4.1%), in the Netherlands, 1,978 tons (- 0.07%) and in Switzerland, 9,102 tons (- 7.2%).

In 1968, the payload capacity of self-propelled craft fell in Belgium by 15,370 tons (- 0.6%) and in France, by 31,828 tons (- 1.5%) but rose in Germany, by 17,090 tons (+ 0.5%), in Austria by 1,047 tons (+ 5.1%), in the Netherlands, by 58,353 tons (+ 1.6%) and in Switzerland by 1,926 tons (+ 0.6%). The total power rating of tugs (including pusher-tugs) rose in France (+ 0.1%) in the Netherlands (+ 0.3%) but fell in Germany (- 9.2%), in Austria (- 6.5%), in Belgium (- 25.1%) and in Switzerland (- 14.2%).

III. INFRASTRUCTURAL DEVELOPMENT

Progress report on studies and achievements concerning waterways of interest to Europe as a whole (Resolution No. 9 - Inland Waterways - 3rd September, 1964).

1. Improvement of the Dunkirk-Scheldt link and its international extensions

The Dunkirk-Denain section came into service in 1968 and additional improvements were made in 1969. Work is proceeding between Denain and Valenciennes with the construction of locks at Trith and Denain and also downstream of Valenciennes, where improvements are being made near Condé.

On the Belgian side, improvements to the Upper Schedlt continued in 1968 with calibrating and realignment works on a series of sections stretching from Vaulx (Tournai) to Berchem - Kerkhove, to Audenarde and Gavere, and between Zwijnaarde and Zemmerzake. The Ghent ring canal - the western and southern sections of which are nearly completed, has been in use for the disposal of water from the upper reaches of the river since the end of 1968. The entire canal will be open to navigation for 2,000-ton craft in 1969.

2. Improvement of the Scheldt-Rhine link

Work began in 1968. Tenders have been invited for the elaborate lock system planned for this link. The new lock system on the Antwerp-Rhine link, up to the Volkerak Dyke, has come into service.

3. Improvement of the Meuse and its international links

On the Belbian side, new structures above Neuville-sous-Huy are under consideration. Development work on the Lower Meuse below Liege began in 1969.

On the Netherlands side, the widening of the Juliana Canal, and the corresponding local extension of lock capacity, were completed. The same applies to the new locks on the canalised Meuse, near Sambeek and

Belfeld. At Linne, the construction of the lock on the Linne-Buggenum lateral canal is making satisfactory progress.

4. Meuse-Rhine link with connection to Aix-la-Chapelle

Studies are still proceeding.

5. Canalisation of the Moselle

This project is completed as far as the section below Metz is concerned. The Metz-Frouard section is in course of completion; all the facilities for the river port at Frouard are in commission. The first stage of the project concerning the Frouard-Neuves Maisons section has begun (the Frouard lock and dam, the Toul loch and the Liverdun rail bridge).

6. Improvement of navigation conditions on the Rhine between Strasbourg and Saint-Goar

Under a treaty signed on 4th July, 1969, Germany and France have agreed to undertake joint development work on the Rhine along the frontier stretch from Kehl/ Strasbourg to Neuburgweier/Lauterbourg.

The main items are as follows:

- construction of two locks on the Rhine, one at Gambsheim, to be built by France the other at Iffeszheim, to be built by Germany;
- action to prevent erosion of the river bed near Iffeszheim;
- flood-dykes.

Each country will bear an equal share of construction costs.

Training works between Neuburgweier/ Lauterbourg and Saint-Goar (in order to improve navigation conditions and deepen the channel by 40 cm) have been stepped up. The main effort was concentrated on the Rüdesheim-Bingen section, where a good deal of work had to be done with a view to the subsequent improvement of the Binger Locj. A few sections of special importance for navigation are completed; for instance, part of the route between Oberwesel and Saint-Goar and the "Sondernheim Sill" between Karlsruhe and Speyr. Work on other sections of the Upper Rhine and the Rhein gau is at a well-advanced stage.

7. Rhône-Rhine Link

In Switzerland, studies and discussions continued on the action required to ensure future development of the navigable reaches of the Aar between its confluence with the Rhine and the lowland lakes of the Jura.

The Kembs - Niffer - Mulhouse section of the Rhône-Rhine canal is completed. On the Saône, work in progress concerns completion of the Couzon reach, reconstruction of bridges at Lyons and the Charnay dam. On the Rhône, development work on the Vallabrégues Falls is in progress and work began on the St. Vallier Falls in 1969.

8. Development of the Rhine between Rheinfelden and Lake Constance.

No further developments to report.

9. Rhine-Main-Danube link

Good progress is being made between Bamberg and Nuremberg. The Bamberg-Forchheim canal section (approximately 30 km) was opened to navigation on 1st March, 1968. Several locks and numerous bridges are being built between Forchheim and Nuremberg. This section is expected to be open to navigation at the end of 1972.

Work is in progress on the Nuremberg-Kelheim canal section and on the canalisation of the Danube between Kelheim and Vilshofen.

10. Development of the Elbe with a link from Hamburg to the waterways network of Western Europe, including the Mittellandkanal

Work on the canals systems of North-West Germany - the keystone of which is the Mittellandkanal - made steady progress. Widening of the alignment continued at various points over a total length of 50 km, of which about 15 km are completed.

Preparatory and construction work continued on the Elbe-Seitel canal. In 1969, work began on the realignment of a stretch nearly 50 km long, and on the construction of various structures such as bridges and culverts. Total expenditure on the Elbe-Seiten canal in 1969 amounts to DM. 70 million.

11. Oder-Danube link

No information for the time being.

12. Link between Lake Maggiore and the Adria

No further developments to report.

The following information concerns waterways not covered by Resolution No. 9 of the Council of Ministers.

In Germany, work on the canalisation of the 14 km section of the Neckar between Stuttgart and Plochingen have reached the final trimming stage and this section has already come into service.

Work on the canals network of Western Germany is proceeding according to plan. The Küstenkanal, the Dortmund-Ems, Wesel-Datteln, Datteln-Hamm and Rhine-Herne canals will soon be accessible to 1,350-ton craft. These projects chiefly consist in widening various sections of the canals concerned and in building or converting locks. A second lock has come into service at Flaesheim on the Wesel-Datteln canal. Two other locks now under construction on this canal are due to come into service in 1970.

In Belgium, modernisation works are proceeding on the Lys.

On the 1st April, 1969, the Charleroi-Brussels canal was opened to navigation for 1,350-ton craft subject to their draught being reduced to 2.30 m. Navigation with the standard draught (2.50 m) has been authorised between Charleroi and the turning basin at Clabecq since 11th November, 1968, and also on the main junction from Seneffe to La Louriere.

On the Sambre, progress with the calibration works in 1968 gradually made it possible to raise the authorised draught from 2.20 m to 2.50 m and, by successive sections, the size of vessel authorised up to Class III (1,000 tons) on the entire stretch of the Sambre running downstream from Monceau to Namur, and up to Class IV (1,350 tons) on most of this route. Class IV navigation is entirely unrestricted from Monceau to Namur since 6th June, 1969.

On the Canal du Centre, the Obourg-Wartons lock, accessible to 1,350-ton craft, came into service on 18th April, 1969.

On the Brussels-Rouppel ship canal, the construction of the Zemst lock, which began in 1968, is proceeding.

The development of the Albert Canal to accommodate 9,000-ton pusher convoys, which began in 1968 with the widening of the canal at various points, is to continue with the construction of new locks. Two more locks are to be built shortly.

In the Netherlands, the widened Ghent-Teneuzen canal was inaugurated at the end of 1968. The port of Ghent is now accessible to ocean-going vessels of 50,000 dwt. The canal is to be made one metre deeper to enable the port to accommodate ships of 60,000 dwt.

IV. TREND OF PIPELINE TRANSPORT

As in 1968, this type of transport increased in several countries. New pipelines were added to the existing network and branches of main trunk lines came into service. Details for individual countries are given below.

In Germany, no additional crude oil pipelines came into service in 1968, only the following products pipelines:

- the Dinslaken-Venlo (Rotterdam) line linking up with the Rhine-Main Line (July 1968);
- an ethylene pipeline from Kelsterbach (Frankfurt-am-Main) to Wesseling (Cologne) (October 1968).

On 31st December, 1967, the construction of the following products pipelines was under consideration:

- an ethylene pipeline from Gelsenkirchen-Buer to Geleen (Netherlands Limbourg) (expected to come into service round about 1969);
- an ethylene pipeline from Gelsenkirchen to Rotterdam;
- an ethylene pipeline from Kelsterbach (Frankfurt-am-Main) to Carling (Lorraine) near Saarbrucken.

Total carrying in 1968 amounted to 67 million tons (13,700 million ton-km) of which 20.6 million tons (5,600 million ton-km) for internal traffic and 46 million tons (8,000 million ton-km) for imports.

In Austria, the Adria-Vienna pipeline is being laid from Wurmlach in Carinthia to the Austrian Oil Authority Refinery (Osterreische Mineralolvernaltung AG). This 420-km pipeline is expected to come into service in 1967.

Belgium. No new developments to report with regard to pipelines.

In Spain, there were no further extensions to the pipeline network in 1968, nor any new legislation on this subject.

As regards internal traffic, 2.3 million tons were conveyed through the 267 km Malaga-Puertollano pipeline in 1968, as compared with 2 million tons in 1967 - an increase of 15%.

The position in France is as follows.

The following pipelines were built in 1968:

The Berr-Manosque crude oil pipeline - length 107 km - diameter 20 inches - came into operation for petroleum transport (i.e. brine being withdrawn) on 15th July, 1969.

Mediterranean-Rhône products pipeline - length 555 km - diameter 10, 12 or 16 inches depending on section. This line links the Marseilles complex and the Feyzin Refinery to depots in the Rhône Valley up to Lyons and to depots at Grenoble, Aix and Annecy and St. Julien (south of Geneva) - the link with Geneva is not yet built.

The following will be built in 1969:

- Crude oil pipelines - Strasbourg-Lorraine (Hauconcourt Refinery north of Metz) - length 142 km - diameter 18 inches. Le Verdon-Pauillac - length 50 km - diameter 18 inches;
- Products pipelines
  - extension of the TRAPIL complex - diameter 20 inches;
  - branch line: Vigney-Gargenville-Vernon - 59 km;
  - branch line: Gargenville-Coignières-Orly - 79 km.

These pipelines are to be completed by the end of 1969 and to come into service in the early months of 1970.

No new legislation or regulations concerning pipelines were introduced in 1968, but the Ministry of Public Works issued Section 72 (Rules of Instruction) of its "Code of Practice".

In Italy, the total tonnage carried by pipeline in 1968 rose to 54.5 million tons - an average increase of 19.4% on the previous year.

As regards infrastructural development, the Trecate-Vado Ligure products pipeline came into service in 1968.

No pipelines were under construction on 31st December, 1968, and no legislation or regulations were introduced in Italy during that year.

In the Netherlands, the pipelines running from Rotterdam to the German Frontier carried 16.7 million tons in 1968, as compared with 14.7 million tons in 1967 - an increase of 13.3%.

In the United Kingdom, the following pipelines came into service in 1968:

- Stanlow - Haydock	ϕ 6 inches	September 1968
- Thames-Midlands-Mersey	ϕ 14 inches	March 1968
(Kingsbury)	ϕ 12 inches	New sections will be regularly put into
	ϕ 10 inches	service

The following pipelines were under construction on 21st December, 1968:

- Hemel Hempstead (Buncefield)	ϕ 6 inches	Due for completion early in 1969
- To London Airport (Perry Oaks)	ϕ 8 inches	
- Finnart--Grangemouth	ϕ 20 inches	Due for completion early in 1969.

The total length of pipelines in 1968 was 1,513 km.

The total throughout was 17.3 million tons, including 4 million tons of refined products.

No legislation or regulations on this subject were introduced in 1968.

In Switzerland, no new pipelines came into operation in 1968, nor were there any under construction on 31st December,1968. However, a concession was granted in 1967 for a project concerning the construction of a products pipeline with the following alignment: Marseilles - St. Julien en Genevois - Vernie (Geneva). The date of its coming into service is not yet known.

V. TRENDS OF TRAFFIC IN MAJOR SEAPORTS

Table 8 gives some idea of the scale of sea port traffic. In all countries except Italy, total traffic increased in 1968 as compared with 1967

Table 1. FREIGHT TRAFFIC CARRIED ON INLAND WATERWAYS

('000 tons)

COUNTRY	YEAR	INTERNAL TRAFFIC	INTERNATIONAL TRAFFIC		FREIGHT IN TRANSIT	TOTAL TONNAGE CARRIED	TOTAL TON-KILOMETRES (MILLIONS)	TON-KILOMETRES INDEX 1955 = 100
			LOADED	DISCHARGED				
Federal Republic of Germany	1955	64,418	21,908	31,606	6,680	124,612	28,624	100
	1961	90,817	32,167	42,680	6,551	172,215	40,214	140
	1962	90,818	30,626	42,951	6,379	170,774	39,936	139
	1963	84,995	30,698	45,127	6,506	167,327	39,513	138
	1964	96,013	29,022	52,627	6,133	183,795	40,609	142
	1965	98,180	32,409	57,007	8,098	195,694	43,552	152
	1966	100,313	39,688	58,655	9,238	207,894	44,826	157
	1967	94,576	47,869	62,089	9,905	214,439	45,785	160
	1968	100,077	52,772	69,795	10,683	233,328	47,932	167
Austria	1955	284	616	1,738	473	3,112	507	100
	1961	664	1,219	2,941	670	5,494	904	178
	1962	691	1,239	2,708	753	5,391	919	181
	1963	510	1,074	3,440	769	5,793	995	196
	1964	560	953	3,663	731	5,907	1,032	204
	1965	765	1,040	3,491	689	5,985	977	193
	1966	722	1,099	4,199	721	6,741	1,055	208
	1967	512	1,094	3,903	915	6,424	1,077	212
	1968	562	1,904	5,860	865	8,067	1,285	253
Belgium	1955	22,572	15,826	16,441	2,001	56,840	4,617	100
	1961	24,821	14,921	21,877	3,496	65,115	5,473	119
	1962	25,522	15,709	22,156	3,254	66,641	5,421	117
	1963	22,778	16,156	22,599	3,268	64,801	5,201	113
	1964	26,356	18,522	26,195	4,235	75,308	5,543	120
	1965	25,778	18,867	27,806	4,580	77,031	6,087	132
	1966	26,456	19,785	28,865	4,488	79,594	5,970	129
	1967	27,111	20,999	32,601	4,621	85,332	6,262	136
	1968	28,168	22,657	37,644	4,861	93,330	6,649	144
France	1955	40,211	7,752	5,475	4,817	58,255	8,917	100
	1961	40,718	7,543	7,759	7,138	71,158	11,262	126
	1962	49,713	6,470	8,064	7,289	71,536	11,234	126
	1963	51,208	9,115	8,209	7,657	76,189	11,358	127
	1964	58,805	11,490	9,097	6,227	85,619	12,470	140
	1965	58,311	15,129	9,344	6,972	89,756	12,510	140
	1966	59,283	17,082	9,989	7,098	93,452	12,652	142
	1967	61,139	18,284	11,243	6,970	97,635	12,965	145
	1968	62,243	20,601	11,939	6,956	101,739	13,254	149
Italy	1955	2,135	-	120	-	2,256	..	..
	1961	2,356	-	331	-	2,687	..	..
	1962	2,553	..	291	-	2,844	..	..
	1963	2,471	175	363	-	3,009	..	..
	1964	2,394	23	178	-	2,595	..	..
	1965	2,753	-	24	-	2,777	..	..
	1966	3,149	-	-	-	3,149	..	..
	1967	3,687	-	-	-	3,687	..	..
	1968	4,388	-	-	-	4,388	..	..
Netherlands	1955	44,426	33,889	20,369	13,589	112,273	15,255	100
	1961	61,401	49,082	23,475	18,855	152,813	20,247	133
	1962	63,801	49,558	22,868	18,037	154,264	20,328	133
	1963	60,719	48,858	22,278	19,584	151,439	20,201	132
	1964	77,012	56,921	25,931	21,381	181,245	22,712	149
	1965	82,229	60,357	28,222	23,184	193,992	24,070	158
	1966	81,015	60,912	32,424	24,617	198,963	25,315	166
	1967	92,654	64,239	39,928	27,369	224,190	28,568	187
	1968	94,800	73,439	44,481	29,497	242,217	31,044	204
Switzerland	1955	2	456	4,131	164	4,753	14	100
	1961	2	324	6,493	208	7,027	30	214
	1962	0	294	6,788	182	7,264	31	222
	1963	2	321	7,960	186	8,469	37	264
	1964	2	397	7,133	218	7,750	34	243
	1965	0	661	7,955	211	8,827	40	286
	1966	0	395	8,012	241	8,648	39	279
	1967	4	342	7,595	280	8,221	38	271
	1968	1	320	7,515	284	8,120	39	279
Yugoslavia	1955	2,763	400	122	2,875	6,160	2,106	100
	1961	4,839	719	662	3,714	9,934	3,037	144
	1962	4,154	717	736	3,854	9,501	3,194	152
	1963	5,180	784	891	3,964	10,819	3,518	167
	1964	6,043	817	1,091	4,829	12,780	4,282	203
	1965	6,443	849	1,026	4,716	13,034	4,354	207
	1966	7,287	1,143	1,235	5,651	15,307	5,196	247
	1967	7,933	1,106	1,475	4,996	15,510	4,690	223
	1968	9,744	1,308	2,111	5,451	18,614	5,318	253

Table 2. RHINE TRAFFIC AT THE GERMAN-NETHERLANDS FRONTIER EMMERICH/LOBITH

('000 tons)

	1967	1968	1969	1969 AS % OF 1968
Upstream				
January	4,496	4,961	5,060	102
February	3,544	4,776	5,068	106
March	4,165	4,933	5,289	107
April	4,523	4,488	5,294	118
May	4,653	5,300	5,984	113
June	5,389	5,173		
July	4,728	5,111		
August	4,806	5,877		
September	4,482	5,478		
October	4,679	5,645		
November	4,642	5,180		
December	4,583	4,531		
Year	54,690	61,453		
Downstream				
January	3,013	3,286	3,591	109
February	3,096	3,876	3,365	87
March	3,495	4,294	4,203	98
April	3,907	4,168	4,103	98
May	3,581	4,598	4,371	95
June	4,1 8	4,171		
July	3,435	4,067		
August	4,117	4,634		
September	4,374	4,230		
October	4,219	4,333		
November	3,796	3,708		
December	3,173	3,005		
Year	44,324	48,370		

Table 3. NUMBER OF CRAFT, BROKEN DOWN BY CARGO CAPACITY, AT END OF 1968

COUNTRY	CLASS	SELF-PROPELLED CRAFT			DUMB CRAFT			TOTAL CARGO-CARRYING CRAFT			TUGS + PUSHERS			
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		TYPE	NUMBER	HORSEPOWER (cv)	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)			TOTAL (TONS)	AVERAGE (TONS)
Germany[1]														
Up to 250 t.	0										Up to 250 cv			
From 251 to 400 t....	I										From 251 to 400 cv .			
From 401 to 650 t. ..	II										From 401 to 1,000 cv			
From 651 to 1,000 t..	III										Over 1,000 cv			
From 1,001 to 1,500 t.	IV													
Over 1,500 t.	V													
Total		5,589	3,433,902	614	1,473	1,253,076	851	7,062	4,686,978	664	Total	531	200,487	378
Austria														
Up to 250 t.	0	-	-	-	-	-	-	-	-	-	Up to 250 cv.			
From 251 to 400 t....	I	2	600	300	-	-	-	2	600	300	From 251 to 400 cv .			
From 401 to 650 t....	II	1	600	600	22	12,400	564	23	13,000	565	From 401 to 1,000 cv			
From 651 to 1,000 t..	III	10	9,100	910	184	160,300	871	194	169,400	873	Over 1,000 cv			
From 1,001 to 1,500 t.	IV	9	11,200	1,244	42	49,200	1,171	51	60,400	1,184				
Over 1,500 t.	V	-	-	-	-	-	-	-	-	-				
Total		22	21,500	977	248	221,900	895	270	243,400	901	Total	36	30,200	839
Belgium														
Up to 250 t.	0	397	55,572	140	66	8,954	136	463	64,525	139	Up to 250 cv.	64	9,020	141
From 251 to 400 t....	I	3,268	1,162,805	356	153	54,633	357	3,421	1,217,438	356	From 251 to 400 cv .	18	5,572	310
From 401 to 650 t....	II	824	422,578	513	135	66,511	493	959	489,089	510	From 401 to 1,000 cv	3	1,288	429
From 651 to 1,000 t..	III	413	349,410	847	35	29,936	855	448	379,346	847	Over 1,000 cv.	-	-	-
From 1,001 to 1,500 t.	IV	243	304,509	1,253	132	179,610	1,361	375	484,119	1,291	Unspecified[2]	10	4,024	402
Over 1,500 t.	V	35	59,400	1,694	66	115,263	1,731	101	174,663	1,739				
Total		5,180	3,354,273	455	587	454,907	775	5,767	2,809,180	487	Total	95	19,904	210
France														
Up to 250 t.	0	292	52,903	181	233	29,347	126	525	82,250	157	Up to 250 cv.	41	5,571	136
From 251 to 400 t....	I	4,426	1,574,865	356	792	276,619	349	5,218	1,851,484	355	From 251 to 400 cv .	20	5,925	296
From 401 to 650 t....	II	704	312,496	444	501	223,497	446	1,205	535,993	445	From 401 to 1,000 cv	18	9,685	538
From 651 to 1,000 t..	III	238	197,823	831	154	117,861	765	392	315,684	805	Over 1,000 cv	1	1,400	1,400
From 1,001 to 1,500 t.	IV	15	17,343	1,156	44	52,248	1,187	59	69,591	1,180	Unspecified[2]	110	81,159	738
Over 1,500 t.	V	2	3,268	1,634	131	240,092	1,833	133	243,360	1,830				
Total		5,677	2,158,698	380	1,855	939,664	507	7,532	3,098,362	411	Total	190	103,740	546
Italy														
Up to 250 t.	0										Up to 250 cv			
From 251 to 400 t....	I										From 251 to 400 cv .			
From 401 to 650 t....	II										From 401 to 1,000 cv			
From 651 to 1,000 t..	III										Over 1,000 cv			
From 1,001 to 1,500 t.	IV													
Over 1,500 t.	V	379												
Total											Total			
Netherlands														
Up to 250 t.	0	6,673	769,100	115	5,782	466,600	81	12,455	1,235,700	99	Up to 250 cv	1,711	196,373	115
From 251 to 400 t....	I	2,392	781,400	327	449	142,700	318	2,841	924,100	325	From 251 to 400 cv .	256	80,126	313
From 401 to 650 t....	II	1,825	928,200	514	681	350,300	514	2,506	1,288,500	514	From 401 to 1,000 cv	197	105,842	537
From 651 to 1,000 t..	III	917	757,100	826	510	425,700	834	1,427	1,182,800	822	Over 1,000 cv.....	18	28,830	1,602
From 1,001 to 1,500 t.	IV	296	367,100	1,240	516	666,700	1,290	812	1,033,800	1,273	Unspecified[1]	42	38,943	927
Over 1,500 t.	V	49	93,500	1,908	389	790,700	2,033	438	884,200	2,019				
Total		12,152	3,706,400	305	8,327	2,842,700	341	20,479	6,549,100	319	Total	2,224	450,114	202
Switzerland														
Up to 250 t.	0	1	186	186	-	-	-	1	186	186	Up to 250 cv	4	815	204
From 251 to 400 t....	I	8	2,495	312	-	-	-	8	2,495	312	From 251 to 400 cv .	-	-	-
From 401 to 650 t....	II	30	16,261	542	-	-	-	30	16,261	542	From 401 to 1,000 cv	7	4,680	669
From 651 to 1,000 t..	III	189	161,687	856	31	29,896	964	220	191,583	871	Over 1,000 cv	7	17,950	2,564
From 1,001 to 1,500 t.	IV	107	128,211	1,198	40	53,495	1,337	147	181,706	1,236				
Over 1,500 t.	V	20	33,557	1,678	19	34,439	1,813	39	67,996	1,743				
Total		335	342,397	965	90	117,830	1,309	445	460,227	1,034	Total	18	23,445	1,303
Yugoslavia														
Up to 250 t.											Up to 250 cv			
From 251 to 400 t....											From 251 to 400 cv .			
From 401 to 650 t....											From 401 to 1,000 cv			
From 651 to 1,000 t..											Over 1,000 cv			
From 1,001 to 1,500 t.														
Over 1,500 t.														
Total											Total			

1. Including push-towed craft.
2. Pushers.

Table 4. DEVELOPMENT OF THE FLEET

COUNTRY	AT END OF YEAR	SELF-PROPELLED CRAFT			DUMB CRAFT [1]			TOTAL CARGO-CARRYING CRAFT			TUGS		
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	HORSEPOWER (CV)	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL	AVERAGE
Federal Republic of Germany	1955	3,094	1,363,870	441	3,614	2,650,609	733	6,708	4,014,479	598	834	319,130	383
	1962	5,152	2,843,322	552	2,469	2,130,834	863	7,621	4,974,156	658	753	283,678	372
	1963	5,382	3,054,336	568	2,248	1,946,874	866	7,630	5,001,211	655	750	279,525	373
	1964	5,554	3,249,726	581	2,058	1,745,761	848	7,612	4,995,487	656	729	276,235	399
	1965	5,681	3,404,784	599	1,836	1,540,864	839	7,517	4,945,648	658	687	261,385	380
	1966	5,662	3,432,924	606	1,726	1,452,611	842	7,388	4,885,535	661	610	222,078	364
	1967	5,614	3,416,812	608	1,558	1,292,866	830	7,172	4,709,678	657	582	220,917	380
	1968	5,589	3,433,902	614	1,473	1,253,076	851	7,062	4,686,978	664	531	200,487	378
Austria	1955	2	1,118	559	261	205,729	788	263	206,847	786	35	26,490	757
	1962	2	896	448	312	264,441	848	314	265,337	845	40	33,095	827
	1963	4	2,604	651	312	265,700	852	316	268,304	849	40	33,045	826
	1964	6	5,126	854	303	259,736	857	309	264,862	857	39	32,245	827
	1965	12	11,321	943	286	247,590	866	298	258,911	869	41	34,760	848
	1966	13	12,845	988	271	237,788	877	284	250,633	812	36	32,655	907
	1967	21	20,453	974	259	228,917	884	280	249,370	891	39	32,070	822
	1968	22	21,414	973	248	221,985	895	270	243,399	901	36	29,990	833
Belgium	1955	4,386	1,522,546	347	1,764	879,238	498	6,150	2,401,784	391	225	26,140	116
	1962	5,120	2,060,895	403	807	564,958	700	5,927	2,625,853	443	177	23,643	134
	1963	5,123	2,124,562	415	766	562,514	734	5,889	2,687,076	456	176	26,466	150
	1964	5,187	2,224,423	429	724	541,204	748	5,911	2,765,627	468	160	25,890	162
	1965	5,212	2,294,383	440	689	520,288	755	5,901	2,814,671	477	165	26,321	160
	1966	5,264	2,352,942	447	678	522,287	770	5,942	2,875,229	484	152	23,509	155
	1967	5,247	2,369,643	451	629	494,503	786	5,876	2,864,146	487	153	26,500	173
	1968	5,180	2,354,273	455	587	454,907	775	5,767	2,809,180	487	95	19,904	210
France	1955	3,925	1,396,719	356	6,506	2,378,053	366	10,431	3,774,772	362	429	135,025	315
	1962	5,435	2,008,204	369	4,137	1,526,996	369	9,572	3,535,200	369	473	128,855	272
	1963	5,640	2,085,608	370	3,996	1,508,545	378	9,636	3,594,153	373	485	152,269	302
	1964	5,821	2,158,057	371	3,850	1,464,851	380	9,671	3,622,908	375	504	152,269	302
	1965	5,916	2,211,539	373	3,737	1,401,371	374	9,653	3,612,910	374	520	164,125	316
	1966	5,981	2,230,304	373	3,018	1,202,743	399	8,999	3,433,047	381	521	161,843	311
	1967	5,784	2,190,526	396	1,992	978,180	491	7,776	3,168,706	407	199	103,620	521
	1968	5,677	2,158,698	380	1,855	939,664	507	7,532	3,098,362	411	190	103,740	546
Italy	1955	353	36,766	104	1,256	102,686	82	1,609	139,452	87	80	6,323	79
	1962	571	52,034	91	2,039	104,458	51	2,610	156,492	60	116	7,221	62
	1963	598	55,645	93	2,080	104,366	50	2,678	160,011	60	114	7,484	66
	1964	616	58,992	96	2,103	108,942	52	2,719	167,934	62	123	8,346	68
	1965	645	60,623	94	2,177	98,685	45	2,822	159,308	56	123	8,215	67
	1966	607	58,743	97	2,155	98,365	46	2,762	157,108	57	122	8,287	68
	1967												
Netherlands	1955	8,068	1,473,189	195	7,420	2,732,459	368	15,488	4,205,648	272	...	..	..
	1962	11,153	2,836,775	254	8,522	2,778,231	326	19,675	5,615,006	286	2,174	383,550	176
	1963	11,514	3,038,800	264	8,567	2,782,172	325	20,081	5,820,972	290	2,174	389,071	179
	1964	11,885	3,284,555	276	8,661	2,854,418	329	20,546	6,138,973	298	2,194	397,051	180
	1965	12,152	3,486,702	287	8,658	2,902,264	335	20,810	6,388,966	307	2,262	425,780	188
	1966	12,157	3,588,019	295	8,612	2,882,634	335	20,769	6,470,653	312	2,232	409,323	183
	1967	12,115	3,648,047	328	8,397	2,844,678	339	20,512	6,492,725	333	2,275	448,728	197
	1968	12,152	3,706,400	305	8,327	2,842,700	341	20,479	6,549,100	319	2,224	450,100	202
Switzerland	1955	274	203,896	744	64	63,636	994	338	267,532	792	19	24,800	1,305
	1962	357	316,472	886	76	99,693	1,312	433	416,165	961	16	25,205	1,576
	1963	364	326,721	898	80	106,001	1,325	444	432,722	975	18	29,555	1,642
	1964	373	337,072	904	82	108,737	1,326	455	445,980	980	20	29,555	1,463
	1965	371	337,455	910	87	115,800	1,331	458	453,255	990	21	30,715	1,463
	1966	370	338,812	916	88	118,204	1,343	458	457,016	998	21	28,555	1,360
	1967	359	340,471	948	96	126,932	1,322	455	467,403	1,027	21	27,335	1,302
	1968	355	342,397	965	90	117,830	1,309	445	460,227	1,034	18	23,445	1,303
Yugoslavia	1955	18	5,137	285	726	302,327	416	744	307,464	413	145	34,685	239
	1962	18	5,791	322	654	404,160	618	672	409,951	610	217	60,977	281
	1963	21	6,702	319	662	406,412	614	683	413,114	605	243	69,573	286
	1964	19	6,350	334	729	472,869	649	749	479,219	641	241	71,395	296
	1965	20	6,370	319	729	480,819	660	749	487,189	650	240	72,101	300
	1966	20	6,372	319	751	505,041	672	771	511,413	663	231	65,776	285
	1967	20	5,372	268	766	506,108	661	786	511,480	651	247	82,681	338

1. Including push-towed craft.

Table 5. CRAFT IN SERVICE, CLASSIFIED BY AGE GROUPS AT END OF 1968

	SELF-PROPELLED CRAFT				DUMB CRAFT[1]				TOTAL CARGO-CARRYING CRAFT				TUGS			
	NUMBER	%	CAPACITY	%	NUMBER	%	CAPACITY	%	NUMBER	%	CAPACITY	%	NUMBER	%	CAPACITY	%
Federal Republic of Germany																
Before 1900 ..																
1900-1909 ...																
1910-1919 ...																
1920-1929 ...																
1930-1939 ...																
1940-1949 ...																
1950-1959 ...																
1960-1967 ...																
1968 ...																
Unspecified ...																
Total	5,589	100	3,433,902	100	1,473	100	1,253,076	100	7,062	100	4,686,978	100	531	100	200,487	100
Austria																
Before 1900 ..	1	4.5	328	1.5	35	14.1	21,756	9.8	36	13.3	22,084	9.1	1	2.8	180	0.6
1900-1909 ...	-	-	-	-	13	5.2	8,254	3.7	13	4.8	8,254	3.4	1	2.8	265	0.9
1910-1919 ...	1	4.5	555	2.6	15	6.1	10,533	4.7	16	5.9	11,088	4.6	1	2.8	1,270	4.2
1920-1929 ...	1	4.5	742	3.5	27	10.9	20,640	9.3	28	10.4	21,382	8.8	1	2.8	320	1.1
1930-1939 ...	-	-	-	-	6	2.4	5,473	2.5	6	2.2	5,473	2.2	2	5.7	360	1.2
1940-1949 ...	-	-	-	-	65	26.2	63,914	28.8	65	24.1	63,914	26.2	10	27.7	10,950	36.5
1950-1959 ...	8	36.4	6,784	31.7	60	24.2	58,871	26.5	68	25.2	65,655	27.0	10	27.7	8,480	28.3
1960-1968 ...	11	50.1	12,004	60.7	27	10.9	32,545	14.7	38	14.1	45,549	18.7	10	27.7	8,165	27.2
Unspecified ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	22	100.0	21,413	100.0	248	100.0	221,986	100.0	270	100.0	243,399	100.0	36	100.0	29,900	100.0
Belgium																
Before 1900 ..	235	4.5	99,630	4.2	66	11.2	50,757	11.1	301	5.2	150,387	5.4	2	2.4	324	2.0
1900-1909 ...	500	9.7	219,448	9.3	144	24.6	143,822	31.6	644	11.2	363,270	12.9	9	10.6	1,889	11.9
1910-1919 ...	644	12.4	243,864	10.3	145	24.7	94,707	20.8	789	13.7	338,571	12.1	11	12.9	1,904	12.0
1920-1929 ...	1,253	24.2	547,250	23.3	142	24.1	97,014	21.3	1,395	24.2	644,264	22.9	17	20.0	3,107	19.6
1930-1939 ...	744	14.4	300,634	12.8	47	8.0	25,491	5.6	791	13.7	326,125	11.6	14	16.5	2,892	18.2
1940-1949 ...	382	7.4	160,198	6.8	19	3.2	13,800	3.0	401	6.9	173,998	6.2	9	10.6	1,726	10.9
1950-1959 ...	726	14.0	333,725	14.3	6	1.0	6,206	1.4	732	12.7	339,931	12.1	6	7.1	1,589	10.0
1960-1967 ...	671	12.9	443,274	18.8	19	3.2	23,682	5.2	690	11.9	466,956	16.6	1	1.1	155	1.0
-1968 ...	10	0.2	5,193	0.2	-	-	-	-	10	0.2	5,193	0.2	-	-	-	-
Unspecified ...	15	0.3	1,057	-	-	-	-	-	15	0.3	1,057	-	16	18.8	2,294	14.4
Total	5,180	100.0	2,354,273	100.0	588	100.0	455,479	100.0	5,768	100.0	2,809,752	100.0	85	100.0	15,880	100.0
France																
Before 1900 ...	165	2.9	50,647	2.3	80	4.3	23,475	2.5	245	3.3	74,122	2.4	6	7.5	1,150	5.1
1900-1909 ...	138	2.5	43,925	2.1	81	4.4	28,614	3.0	219	2.9	72,539	2.3	5	6.3	1,585	7.0
1910-1919 ...	222	3.9	68,618	3.1	96	5.2	45,318	4.8	318	4.2	113,936	3.7	6	7.5	1,780	7.9
1920-1929 ...	1,228	21.6	423,990	19.7	460	24.8	170,848	18.2	1,688	22.5	594,838	19.2	13	16.2	3,200	14.2
1930-1939 ...	1,306	23.0	463,694	21.4	314	16.9	119,776	12.7	1,620	21.5	583,470	18.8	28	35.0	8,686	38.5
1940-1949 ...	625	11.0	277,145	12.8	74	4.0	26,738	2.8	699	9.3	303,883	9.8	8	10.0	3,235	14.3
1950-1959 ...	1,583	27.9	670,569	31.2	315	17.0	156,544	16.7	1,898	25.2	827,113	26.7	4	5.0	1,252	5.5
1960-1967 ...	356	6.3	141,959	6.6	419	22.6	360,432	38.4	775	10.3	502,391	16.3	1	1.2	550	2.4
1968 ...	1	-	405	-	8	0.4	6,246	0.7	9	-	6,651	0.2	-	-	-	-
Unspecified ...	53	0.9	17,746	0.8	8	0.4	1,673	0.2	61	0.8	19,419	0.6	9	11.3	1,143	5.1
Total	5,677	100.0	2,158,698	100.0	1,855	100.0	939,664	100.0	7,532	100.0	3,098,362	100.0	80	100.0	22,581	100.0

1. Including push-towed craft.

Table 5. CRAFT IN SERVICE, CLASSIFIED BY AGE GROUPS AT END OF 1968 (Cont'd)

	SELF-PROPELLED CRAFT			DUMB CRAFT [1]				TOTAL CARGO-CARRYING CRAFT				TUGS			
	NUMBER	%	CAPACITY	%	NUMBER	%	CAPACITY	%	NUMBER	%	CAPACITY	%	NUMBER	%	HORSEPOWER	%
Italy																
Before 1900 ..																
1900-1909 ...																
1910-1919 ...																
1920-1929 ...																
1930-1939 ...																
1940-1949 ...																
1950-1959 ...																
1960-1967 ...																
1968 ...																
Netherlands																
Before 1900 ..	993	8.2	217,100	5.8	528	6.3	212,200	7.5	1,521	7.4	429,300	6.6	40	1.8	7,500	1.7
1900-1909 ...	2,342	19.3	477,200	12.9	1,224	14.7	438,600	15.4	3,566	17.4	915,800	14,0	149	6.7	27,000	6.0
1910-1919 ...	2,092	17.2	466,000	12.6	1,258	15.1	395,900	13.9	3,350	16.4	861,900	13.2	261	11.7	42,500	9.4
1920-1929 ...	3,105	25.6	749,800	20.2	2,162	26.0	726,500	25.6	5,267	25.7	1,476,300	22.5	436	19.6	77,300	17.2
1930-1939 ...	1,113	9.1	358,300	9.7	929	11.2	265,300	9.3	2,042	10.0	623,600	9.5	347	15.6	54,000	12.0
1940-1949 ...	320	2.6	160,300	4.3	198	2.4	73,100	2.6	518	2.5	233,400	3.6	327	14.7	73,900	16.4
1950-1959 ...	989	8.1	551,100	14.9	584	7.0	187,900	6.6	1,573	7.7	739,000	11.3	375	16.9	88,200	19.6
1960-1968 ...	1,088	8.9	714,700	19.3	687	8.2	466,900	16.4	1,775	8.7	1,181,600	18.0	181	8.1	70,200	5.6
Unspecified ...	110	0.9	11,800	0.3	757	9.1	76,300	2.7	867	4.2	88,100	1.3	108	4.9	9,500	2.1
Total	12,152	100.0	3,706,300	100.0	8,327	100.0	2,842,700	100.0	20,479	100.0	6,549,000	100.0	2,224	100.0	450,100	100.0
Switzerland																
Before 1900 ..	1	0.3	493	0.1	7	7.8	7,784	6.6	8	1.8	8,277	1.8	-	-	-	-
1900-1909 ...	1	0.3	669	0.2	3	3.3	4,282	3.6	4	0.9	4,951	1.1	2	11.1	1,500	6.4
1910-1919 ...	1	0.3	1,268	0.4	4	4.4	6,791	5.8	5	1.1	8,059	1.7	1	5.6	1,200	5.1
1920-1929 ...	41	11.6	31,684	9.3	41	45.6	51,311	43.5	82	18.4	82,995	18.0	5	27.8	6,600	28.2
1930-1939 ...	54	15.2	38,787	11.3	-	-	-	-	54	12.1	38,787	8.4	3	16.6	4,740	20.2
1940-1949 ...	85	23.9	83,787	24.5	7	7.8	7,932	6.7	92	20.7	91,719	20.0	4	22.2	8,100	34.6
1950-1959 ...	137	38.6	146,631	42.8	3	3.3	4,909	4.2	140	31.5	151,540	32.9	2	11.1	1,065	4.5
1960-1968 ...	35	9.8	39,078	11.4	25	27.8	34,821	29.6	60	13.5	73,899	16.1	1	5.6	240	1.0
Unspecified ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	355	100.0	342,397	100.0	90	100.0	117,830	100.0	445	100.0	460,227	100.0	18	100.0	23,445	100.0
Yugoslavia																
Before 1900 ..																
1900-1909 ...																
1910-1919 ...																
1920-1929 ...																
1930-1939 ...																
1940-1949 ...																
1950-1959 ...																
1960-1967 ...																
1968 ...																
Unspecified ...																
Total																

1. Including push-towed craft.

Table 6. NEW CRAFT BROUGHT INTO SERVICE DURING 1968

COUNTRY	CLASS	SELF-PROPELLED CRAFT			DUMB CRAFT[1]			TOTAL CARGO-CARRYING CRAFT			TUGS + PUSHERS			
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		TYPE	NUMBER	HORSEPOWER (cv)	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)			TOTAL	AVERAGE (TONS)
Germany														
Up to 250 t.	0										Up to 250 cv			
From 251 to 400 t. ..	I										From 251 to 400 cv .			
From 401 to 650 t. ..	II										From 401 to 1,000 cv			
From 651 to 1,000 t. .	III										Over 1,000 cv			
From 1,001 to 1,500 t.	IV													
Over 1,500 t.	V													
Total											Total			
Austria														
Up to 250 t.	0	-	-	-	-	-	-	-	-	-	Up to 250 cv	-	-	-
From 251 to 400 t. ..	I	-	-	-	-	-	-	-	-	-	From 251 to 400 cv .	-	-	-
From 401 to 650 t. ..	II	-	-	-	-	-	-	-	-	-	From 401 to 1,000 cv	-	-	-
From 651 to 1,000 t. .	III	-	-	-	-	-	-	-	-	-	Over 1,000 cv	-	-	-
From 1,001 to 1,500 t.	IV	-	-	-	3	3,711	1,237	3	3,711	1,237				
Over 1,500 t.	V	-	-	-	-	-	-	-	-	-				
Total		-	-	-	3	3,711	1,237	3	3,711	1,237	Total			
France														
Up to 250 t.	0	7	1,775	254	5	1,202	240	12	2,977	248	Up to 250 cv	3	340	113
From 251 to 400 t. ..	I	13	4,462	343	7	2,530	361	20	6,992	350	From 251 to 400 cv .	-	-	-
From 401 to 650 t. ..	II	7	3,222	460	6	2,739	457	13	5,961	451	From 401 to 1,000 cv	-	-	-
From 651 to 1,000 t. .	III	4	2,925	731	9	6,182	687	13	9,107	701	Over 1,000 cv	-	-	-
From 1,001 to 1,500 t.	IV	2	2,658	1,329	1	1,082	1,082	3	3,740	1,247	Unspecified	8	2,275	284
Over 1,500 t.	V	-	-	-	3	6,570	2,190	3	6,570	2,190				
Total		33	15,042	456	31	20,305	655	64	35,347	552	Total	11	2,615	238
Belgium														
Up to 250 t.	0	2	307	102	-	-	-	3	307	102	Up to 250 cv	4	629	157
From 251 to 400 t. ..	I	15	5,434	362	2	568	284	17	6,002	353	From 251 to 400 cv .	1	370	370
From 401 to 650 t. ..	II	5	2,733	547	1	414	414	6	3,147	525	From 401 to 1,000 cv	-	-	-
From 651 to 1,000 t. .	III	3	2,391	797	-	-	-	3	2,391	797	Over 1,000 cv	-	-	-
From 1,001 to 1,500 t.	IV	3	3,933	1,311	-	-	-	3	3,933	1,311	Unspecified[2]	1	400	400
Over 1,500 t.	V	1	1,695	1,695	-	-	-	1	1,695	1,695				
Total		30	16,493	550	3	982	327	33	17,475	530	Total	6	1,399	233
Italy														
Up to 250 t.	0										Up to 250 cv			
From 251 to 400 t. ..	I										From 251 to 400 cv .			
From 401 to 650 t. ..	II										From 401 to 1,000 cv			
From 651 to 1,000 t. .	III										Over 1,000 cv			
From 1,001 to 1,500 t.	IV													
Over 1,500 t.	V													
Total											Total			
Netherlands														
Up to 250 t.	0	16	1,600	100	50	6,700	134	66	8,300	126	Up to 250 cv.	18	2,253	125
From 250 to 400 t....	I	24	7,800	323	14	4,100	293	38	11,900	313	From 251 to 400 cv .	10	3,200	320
From 401 to 650 t. ..	II	41	21,300	517	16	8,300	519	57	29,600	519	From 401 to 1,000 cv	14	6,790	485
From 651 to 1,000 t. .	III	35	2,900	83	9	7,500	833	44	10,400	236	Over 1,000 cv	-	-	-
From 1,001 to 1,500 t.	IV	9	11,400	1,266	5	6,100	1,220	14	17,500	1,250	Unspecified[2]	10	10,760	1,076
Over 1,500 t.	V	-	-	-	27	73,300	2,641	27	73,300	2,641				
Total		125	45,000	360	121	106,000	876	246	151,000	614	Total	52	23,003	442
Switzerland														
Up to 250 t.	0	-	-	-				-	-	-	Up to 250 cv	-	-	-
From 251 to 400 t. ..	I	1	305	305				1	305	305	From 251 to 400 cv .	-	-	-
From 401 to 650 t. ..	II	-	-	-				-	-	-	From 401 to 1,000 cv	-	-	-
From 651 to 1,000 t. .	III	4	3,675	919				4	3,675	919	Over 1,000 cv	-	-	-
From 1,001 to 1,500 t.	IV	3	3,670	1,223				3	3,670	1,223				
Over 1,500 t.	V	-	-	-				-	-	-		-	-	-
Total		8	7,650	956				8	7,650	956	Total	-	-	-
Yugoslavia														
Up to 250 t.	0										Up to 250 cv			
From 251 to 400 t. ..	I										From 251 to 400 cv .			
From 401 to 650 t. ..	II										From 401 to 1,000 cv			
From 651 to 1,000 t. .	III										Over 1,000 cv			
From 1,001 to 1,500 t.	IV													
Over 1,500 t.	V													
Total											Total			

1. Including push-towed craft.
2. Pushers.

Table 7. PIPELINES

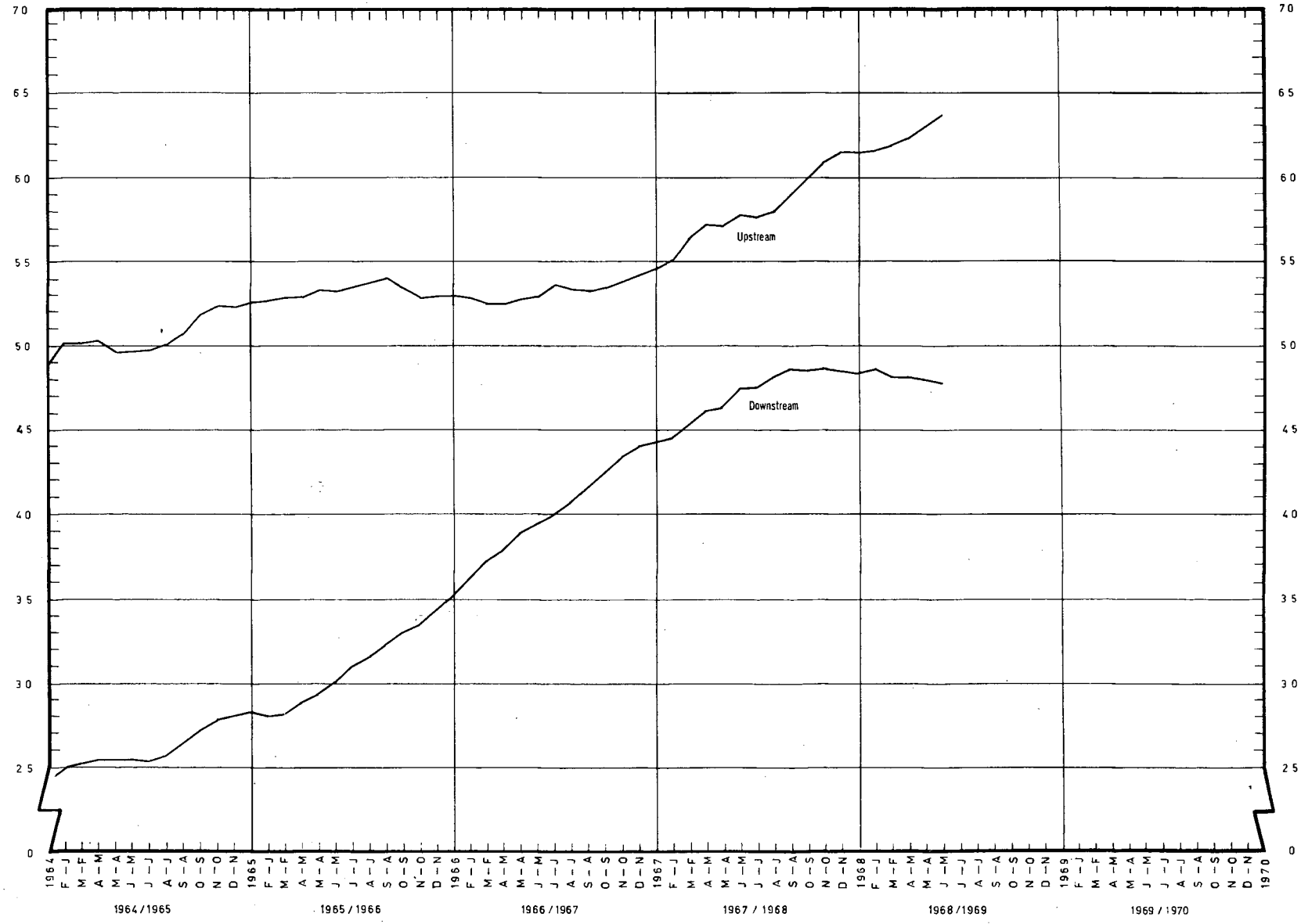
LENGTH OF PIPELINES IN OPERATION AT END OF YEAR

COUNTRY	KILOMETRES	
	1967	1968
France	2,341	3,003
Netherlands	228	323
Spain	267	267
Switzerland	222	222
United Kingdom	1,133	1,513
Germany	1,571	1,571

Table 8. TRAFFIC AT MAJOR SEAPORTS

COUNTRY	1967 (MILLION TONS)	1968 (MILLION TONS)	PERCENTAGE CHANGE
Germany (all seaports combined)	107,633	117,400	+ 5.9
of which: Hamburg	35,421	38,100	+ 7.6
Bremen	17,392	19,000	+ 9.2
Wilhelmshaven	19,946	20,800	+ 4.3
Belgium (all seaports combined)	63,636	80,052	+ 25.8
of which: Antwerp	58,644	72,396	+ 23.4
Spain	98,512	114,757	+ 16.5
France (all seaports combined)	165,827	169,667	+ 2.3
of which: Marseilles and annexes	61,240	55,928	- 8.7
Le Havre	36,194	41,956	+ 15,9
Dunkirk	16,520	17,889	+ 8.3
Italy	236,744	223,547	- 5.6
Norway	27,570	29,748	+ 7.9
Netherlands	174,327	198,035	+ 13.6
of which: Rotterdam	141,375	156,882	+ 11.0
Amsterdam	14,261	17,962	+ 26.0
United Kingdom	304,730	320,093	..
of which: London	56,292	60,080	+ 6.7
Liverpool	28,017	27,384	- 2.3
Milford Haven	27,824	30,041	+ 8.0
Sweden (10 largest ports)	41,789	50,171	+ 20.1
Yugoslavia	14,289	16,794	+ 17.5
Denmark	..	53,704	..
of which: Copenhagen	..	11,400	..
Portugal	11,801	..	..
of which: Lisbon	7,024	7,753	+ 10.8
Leixões	2,423	2,668	+ 10.1

FREIGHT TRAFFIC AT THE GERMAN-NETHERLANDS FRONTIER
MOVING PERIODS OF TWELVE CONSECUTIVE MONTHS IN MILLION TONS



ANNEXES

1. LIST OF OFFICERS OF THE ECMT

OFFICERS OF THE COUNCIL OF MINISTERS

In accordance with the provisions of article 1 a) of the Rules of Procedure, the Council of Ministers, at its sessions of 16th December, 1969, elected the following Officers:

Chairmanship (Italy):

Mr. R. GASPARI - Minister of Transport and Civil Aviation

First Vice-Chairmanship (Spain):

Mr. F. SILVA MUNOZ - Minister of Public Works

Second Vice-Chairmanship (United Kingdom):

Mr. F. MULLEY - Minister of Transport

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 (Italy):

Mr. F. SANTORO - Director general of Co-ordination and General Affairs
Ministry of Transport and Civil Aviation

First Vice-Chairmanship (Spain):

Mr. J. SANTOS-REIN - General Director of Land Transport,
Ministry of Public Works

Second Vice-Chairmanship (United Kingdom):

Mr. B. P. H. DICKINSON - Under Secretary, Ministry of Transport

2. LIST OF DELEGATES AT THE STOCKHOLM AND PARIS CONFERENCES

AUSTRIA

Mr. WEISS, Federal Minister of Transport and Nationalised Industries.

Mr. FISCHER, Director-General (Deputy to the Minister of Transport and Nationalised Industries).

Mr. KNAPPL, Chief Inspector, Ministry of Transport and Nationalised Industries).

Mr. HABEL[1], Director-General (Deputy to the Minister of Trade and Industry).

Mr. FENZ, Ministerial Director, Ministry of Trade and Industry.

Mr. STAUDINGER[2], Austrian Federal Railways, Principal Counsellor.

BELGIUM

Mr. BERTRAND, Minister of Communications.

Mr. VREBOS, Secretary-General (Deputy to the Minister).

Mr. GORDTS[1], Principal Private Secretary to the Minister.

Mr. NEUVILLE[1], Director-General, Ministry of Communications.

Mr. POPPE, Administrative Director, Ministry of Communications.

Mr. DE HAECK, Attaché, Private Office of the Minister of Communications.

DENMARK

Mr. GULDBERG[2], Minister of Public Works.

Mr. CHRISTENSEN[1], Secretary-General (Deputy to the Minister).

Mr. FOLDBERG, Head of Section, Ministry of Public Works.

FRANCE

Mr. MONDON[2], Minister of Transport.

Mr. DEBAYLES, Chief Highways Engineer, Head of International Relations Office, Ministry of Transport (Deputy to the Minister).

Mr. DELAPORTE, Private Office of the Minister of Communications.

Mr. JULIEN, Administrative Officer, International Relations Office, Ministry of Transport.

Miss PARMIN[2], Administrative Officer, International Relations Office, Ministry of Transport.

Mr. GABARRA[2], Counsellor, Ministry of Foreign Affairs.

1. Stockholm session
2. Paris session

GERMANY

Mr. LEBER, Federal Minister of Transport.

Mr. NEUPERT, Ministerial Director (Deputy to the Minister).

Mr. LINDER [1], Ministerial Director.

Mr. MITTMANN [1], Chairman of the Technical Officers Examination Board.

Mr. WOELKER [1], Ministerial Counsellor.

Mr. NAEFE [2], Ministerial Counsellor.

Mr. LAMPE-HELBIG [2], Administrative Director.

Mr. NEUMANN, Administrative Counsellor.

Mr. COLDITZ [2], Head of Press Department.

GREECE

Mr. CHRISTIDIS [2], Ambassador, Head of the Greek Delegation to OECD.

Mr. MILON [1], Deputy Head of the Greek Delegation to OECD (Deputy to the Minister).

Mr. LIONTAS [2], Economic Expert, Greek Delegation to OECD (Deputy to the Minister).

Mr. KOLIOPOULOS [2], Director, Ministry of Communications.

IRELAND

Mr. O'RIORDAN, Secretary-General, Department of Transport and Power (Deputy to the Minister).

Mr. SHEEHY [1], Assistant Secretary, Department of Local Government.

ITALY

Mr. GASPARI [2], Minister of Transport.

Mr. SAMMARTINO [1], Under-Secretary of State for Transport.

Mr. SANTONI-RUGIU [1], Deputy Director-General of the Italian State Railways (Deputy to the Minister).

Mr. SANTORO [2], Director-General of Coordination and General Affairs (Deputy to the Minister).

Mr. ZICCARDI [1], Private Office of the Under-Secretary of State.

Mr. LEONI [1], Counsellor, Ministry of Transport.

Mr. FENELLI [2], Counsellor, Ministry of Transport.

Mr. TURI, Counsellor, Italian Representative to European Communities.

Mr. VECCHIOTTI [1], Chief Inspector, Ministry of Transport.

Mr. ROSSINI [2], Principal Inspector, Ministry of Transport.

LUXEMBOURG

Mr. MART, Minister of Transport and National Economy.

Mr. LOGELIN, Government Counsellor (Deputy to the Minister).

Mr. BLEY [1], Inspector.

1. Stockholm session
2. Paris session

NETHERLANDS

Mr. KEYZER, Secretary of State for Transport and Public Works.

Mr. RABEN [2], Director of International Transport (Deputy to the Minister).

Mr. VRIJ [1], Director-General of Transport.

Mr. van der NOORDT [1], Deputy Director, International Transport Policy Directorate.

Mr. NIEUWENHUYSEN [1], Transport Adviser to the Ministry of Foreign Affairs.

Mr. van REES [1], General and International Affairs Division.

Mr. van KOOY [2], Assistant Transport Adviser, Ministry of Foreign Affairs.

NORWAY

Mr. KYLLINGMARK [1], Minister of Transport.

Mr. LORENTZEN [1], Secretary-General, Ministry of Transport (Deputy to the Minister).

Mr. HAUKVIK [1], Director-General, Ministry of Transport.

PORTUGAL

Mr. de GUIMARAES LOBATO [1], Chairman of the GEPT (Deputy to the Minister).

Mr. de SEQUEIRA BRAGA [1], Director, Transport Economics and Planning Department (GEPT).

Mr. RUI VILAR [1], Head of Group, Transport Research and Planning Office (GEPT).

Mr. AIRES [1], Engineer, Land Transport Directorate.

Mr. PEREIRA CORREIA [2], Director, Transport Research and Planning Office, Ministry of Communications.

SPAIN

Mr. SILVA MUNOZ, Minister of Public Works.

Mr. de CRUYLLES [1], General Director of Land Transport (Deputy to the Minister).

Mr. SANTOS REIN [2], General Director of Land Transport (Deputy to the Minister).

Mr. REGUERA, Technical Secretary General, Ministry of Public Works.

Mr. MARTINEZ-CATENA, Deputy General Director of Land Transport.

Mr. DEL CAMPO [1], Secretary-General, High Council for Land Transport.

Mr. IMEDIO, Economist, High Council for Land Transport.

SWEDEN

Mr. LUNDKVIST [1], Minister of Communications.

Mr. NORLING [2], Minister of Communications.

Mr. PETERSON, Under-Secretary of State (Deputy to the Minister).

Mr. HASSLEV [2], Under-Secretary of State (Deputy to the Minister).

Mr. AHLBERG, Head of Section, Ministry of Communications.

Mr. BERGMAN [1], Head of Section, Ministry of Communications.

Mr. JOHNSSON [1], Ministry of Treasury.

1. Stockholm session
2. Paris session

SWITZERLAND

Mr. BONVIN[2], Federal Counsellor, Head of the Federal Department of Transport, Communications and Power.

Mr. MARTIN, Director, Federal Transport Department (Deputy to the Minister).

Mr. MESSERLI, Head of the Road Traffic Subdivision, Federal Police Division.

Mr. JORDANIS, Head of the International Organisations Office, Federal Transport Department.

TURKEY

Mr. MENTESE[2], Minister of Communications.

Mr. ÖZDEDE, Counsellor, Ministry of Communications (Deputy to the Minister).

Mr. MENGILIBÖRU[2], Director for Road Traffic, Highways Department.

UNITED KINGDOM

Mr. MULLEY[2], Minister of Transport.

Mr. JONES, Deputy-Secretary, Ministry of Transport.

Mr. HILL, Head of International Transport Division.

Mr. HOLMES[2], Private Secretary to the Minister.

YUGOSLAVIA

Mr. ORLANDIĆ[2], Member of the Federal Executive Council.

Mr. JANKOVIC, Counsellor, Federal Executive Council (Deputy to the Minister).

Mr. LATINOVIC[1], Ambassador of Yugoslavia in Sweden.

Mr. PETROVIC[1], Director.

Mr. FRANGES[2], Plenipotentiary Minister, Head of the Yugoslav Delegation to OECD.

COUNCIL OF MINISTERS OF THE EEC

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Secretary : Mr. E. CORBIN

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