EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

XIV

COUNCIL OF MINISTERS

RESOLUTIONS

BORDEAUX, 28th MAY, 1964
PARIS, 3rd DECEMBER, 1964

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ROAD TRANSPORT

Resolution No 19 concerning MAXIMUM SPEED LIMITS IN BUILT-UP AREAS

THE COUNCIL OF MINISTERS OF TRANSPORT,

Meeting in Paris, on 3rd December, 1964,

Having regard to the report below of the Committee of Deputies [CM(64)9 *final*],

RECALLING:

— that in its Resolution No 10 of 20th October, 1959, it considered it desirable to extend regulations concerning a uniformed speed limit for built-up areas to as many countries as possible;

FINDING:

— that the density of traffic and the number of obstacles are greater and that traffic is more mixed in built-up areas than elsewhere and that these facts decisively increase the risks of accidents;

— that speed of travel and severity of accidents are closely related;

— many drivers are not at all aware of the absolute necessity to adjust speeds to road conditions, visibility and traffic;

— that it is consequently essential to impose a general speed limit in built-up areas, to enable drivers to observe traffic rules more easily and more surely;

EMPHASIZING:

— that all Member countries should, as part of their efforts to increase the safety of national and international road traffic, take appropriate and, if possible, uniform measures to increase road safety in built-up areas;

On the proposal of the Committee of Deputies,

RECOMMENDS THAT ALL MEMBER COUNTRIES[1]:

— which have not already done so should lay down a maximum speed limit in built-up areas in order to achieve this aim;

— fix the maximum speed at 50 km.p.h. (30 m.p.h.) or 60 km.p.h. (40 m.p.h.) at their discretion and clearly indicate the beginning and end of speed limits;

— allow the possibility of exceptions above or below this level for certain roads or sections of road where conditions allow faster traffic or require slower traffic, and expressly indicate these exceptions by means of road signs;

— take all appropriate measures to ensure that the prescribed maximum speed is effectively observed by drivers of motor vehicles.

1. The Danish Delegation entered a reservation on this point.

REPORT BY THE COMMITTEE OF DEPUTIES ON MAXIMUM SPEED LIMITS IN BUILT-UP AREAS

[*CM* (64) 9 *final*]

I. INTRODUCTION

1. *Terms of reference*

At its 18th session, held in Paris on 25th and 26th November, 1963, the Council of Ministers of the E.C.M.T. approved the priority programme of work on road traffic safety which had been submitted to it by the Committee of Deputies [CM(63)22]. The Working Party on Road Safety at once got to work on the study of maximum speed limits in built-up areas, which had been given top priority in the programme of work. It was agreed that the study should not include motorways inside built-up areas.

The Delegates for Germany and Luxembourg were appointed as rapporteurs. A questionnaire prepared by them formed the basis for the statement of Member countries views.

2. *State of the problem and review of the suggestions formulated by the European Conference of Ministers of Transport (E.C.M.T.), the Council of Europe and the World Touring and Automobile Organisation (O.T.A.)*

As early as 20th October, 1959, the Council of Ministers of Transport had noted the favourable effects on the number and gravity of accidents which the fixing of a uniform speed limit for built-up areas had had in certain countries. For these reasons, the Council, in its Resolution No 10, considered it desirable to extend this rule to as many countries as possible.

In its report CM/GR3(62)1 of 28th February, 1962, Restricted Group No 3 on the Co-ordination of road traffic rules informed the Council of Ministers that is had not been possible to reach agreement or to propose a text on the question of speed limits on built-up areas.

The Group went on to say that most European countries had regulations limiting the speed of vehicles in built-up areas or were planning to introduce them. Certain countries, however, put the speed limit at 40 or 50 km.p.h. and others at 60 km.p.h. Others again were against any general limitations of speed in built-up areas.

In its report CM/GR3(63)1 of 14th March, 1963, the experts of Restricted Group No 3 for the co-ordination of road traffic rules informed the Council of Ministers that, owing to lack of time, it had been unable to consider the question of speed limits in built-up areas. At its session of 1st and 2nd April, 1963, the Council of Ministers thereupon decided to give priority to a study by the experts on the choice of appropriate signs to mark the beginning and end of the general speed limit in built-up areas, which in practice would at the same time indicate the speed limits in force in those areas.

Recommendation No 331 (1962) of the Consultative Assembly of the Council of Europe suggested that the Committee of Ministers should introduce a general speed limit in built-up areas and arrange for signs to be put up indicating to road users the beginning and end of the speed limit.

The World Touring and Automobile Organisation (O.T.A.) takes the view that (Recommendation adopted in Nice, on 30th September, 1960), where speed is concerned, stress should be laid on the moral responsibility of the driver of the vehicle, as resulting from the choice of means of transport and the freedom to exercise that choice. It nevertheless finds that there is a case for laying down a general maximum speed limit of 60 km.p.h. in built-up areas. The O.T.A. considers it desirable:

a) that the beginning and end of the speed limit should be marked by road signs,

b) that the speed limit should be uniformly applied in Europe,

c) that exceptions to the general limit of 60 km.p.h., either upwards or downwards, should be allowed on certain roads inside built-up areas.

The World Touring and Automobile Organisation believes that such a solution would combine maximum safety with maximum flexibility.

II. ANALYSIS OF REPLIES

The following countries replied to the questionnaire of 20th September, 1963:

Austria,
Belgium,
Denmark,
France,
Germany,
Italy,
Luxembourg,
Netherlands,
Spain,
Sweden,
Switzerland,
United Kingdom.

1. *Countries with no speed limit generally applied in built-up areas*

The regulations in force in *Denmark* make no provision for a speed limit in built-up areas. Drivers are required to adjust the speed of their vehicles to traffic conditions and, where necessary, to drive slowly enough to be able to pull up without fail in emergency. In 1959, the Danish Parliament thought it right to reject a Bill submitted to it for applying a speed limit of 50 km.p.h. in all built-up areas. However, the authorities have power to introduce local speed limits where conditions make this necessary, including built-up areas where experience shows that speeds tend to be excessive.

In Denmark, the numbers of accidents and of persons injured on the roads in built-up areas stood at practically the same level in 1960, 1961 and 1962. For the first three months of 1963, the numbers of accidents and of persons injured were down by as much as 15 per cent compared with the corresponding figures for 1962. Denmark considers that a general speed limit in built-up areas would not appreciably improve pedestrian safety. For main roads passing through built-up areas, where there are no clearly marked pedestrian crossings and no traffic lights, the fixing of a speed limit applicable solely to these road sections might, however, have the effects of increasing pedestrian safety.

In *Spain*, there are no regulations concerning maximum permissible speed in built-up areas. Generally speaking, however, the authorities restrict speeds on all streets passing through the centre of towns. The maximum speed is usually fixed at 40 km.p.h. In Madrid, however, the speed limit is 60 km.p.h. The administrative authorities are empowered by law to limit speeds in built-up areas to 60 or 70 km.p.h. In case of doubt, the lower speed must be prescribed.

2. *Countries with a speed limit generally applied in built-up areas*

a) *Fixed at 50 km.p.h.*

In *Germany*, the speed limit inside built-up areas has been fixed at 50 km.p.h. for motor vehicles of all categories since 1st September, 1957. The beginning of the speed limit is indicated by the place-name sign (III, C, 1[a]) and the end of the speed limit by the "end of locality" panel. In exceptional cases, higher or lower limits may be laid down on certain roads by means of sign II, A, 14.

Since 1955, drivers in *Austria* have not been allowed to travel at more than 50 km.p.h. in built-up areas where no lower limit is laid down and no higher limit is authorised by the responsible authority. The beginning of the speed limit is indicated by the place-name sign (III, C, 1[a]) and the end of the limit by the "end of locality" panel.

In *Italy*, vehicles must not exceed the speed limit or 50 km.p.h. in built-up areas. The competent authorities in this country may, however, lay down other speed limits for certain roads or specifically designated road sections.

In *the Netherlands*, the speed limit in built-up areas has been fixed at 50 km.p.h. since 1st November, 1957; exceptions are allowed for certain roads or sections of roads, in which case an appropriate sign indicates that the speed limit is 70 km.p.h.

In *Great Britain*, the speed in built-up areas has been restricted to 30 m.p.h. (48 km.p.h.) since 1935; it is possible, however, to vary the speed limit. This is done for roads—inside built-up areas—which are suitable for faster traffic; in such cases the maximum speed is frequently 40 m.p.h. (64 km.p.h.).

In *Sweden*, the speed limit in built-up areas has been fixed at 50 km.p.h. since 1955; it is indicated to road users by special signs bearing the figures "50". The competent authorities are empowered to lay down higher or lower speed limits for certain roads or road sections.

In *Ireland* a maximum speed limit of 30 m.p.h. (48 km.p.h.) applies generally to built-up areas since 1963. But this may be varied, and for roads in built-up areas suitable for faster traffic,

a maximum speed limit of 40 m.p.h. (64 km.p.h.) is fixed; this is also used for approaches to built-up areas in suitable cases. Special signs bearing the figures "30" and "40" indicate the beginning of speed limits, and "end of speed limit" signs indicate the end.

In *Greece*, the speed limit is 50 km. per hour in built-up areas, but the Ministry of Communications or other authorities concerned may reduce it to 40 km in special circumstances, e.g. vehicle carrying dangerous goods and lorries used for passenger transport.

b) *Fixed at 60 km.p.h.*

Since 22nd December, 1958, *Belgium* has laid down a speed limit of 60 km.p.h. for Brussels, Antwerp, Liège, Gand and Charleroi. It is proposed to extend this limit to all built-up areas and to mark the beginning and end of the limit by road signs. For certain important roads passing through built-up areas, the competent authorities may authorise speed limits higher than the general maximum though in no case must they exceed 80 km.p.h. Similarly, the authorities have power to reduce speeds in certain narrow roads in the older parts of built-up areas to a level lebow the general maximum.

In *France*, speeds are limited to 60 km.p.h. in built-up areas. This figure was chosen after the majority of the prefects, majors and other competent authorities consulted had expressed themselves in favour of a maximum authorised speed of 60 km.p.h. Mayors have power to lay down a lower speed limit in their areas if local circumstances so require. However, the speed limit in built-up areas may be raised to as much as 80 km.p.h. by prefectorial decree.

In *Luxembourg*, since 1st June, 1960, drivers have been forbidden to exceed a speed of 60 km.p.h in built-up areas, the entries to and exits from which are marked with place-name signs and the prohibition is still valid even in the absence of road sign II, A. 14. The authorities may overrule the general speed limit of 60 km.p.h. and raise it or lower it according to local traffic conditions. All speed limits are indicated by road sign II, A. 14, although the general limit of 60 km.p.h. is compulsory even in the absence of that sign.

In *Switzerland*, the speed limit in built-up areas has been fixed at 60 km.p.h. since 1st June, 1959, except on certain roads or sections of roads for which the authorities have laid down a different limit based on a technical analysis of traffic.

III. UTILISATION AND APPRAISAL

1. *Justification for a speed limit in built-up areas*

a) *Effects of a general speed limit*

The limitation of maximum speeds in built-up areas is necessary in order to ensure optimum safety for all road users and a rational traffic flow. The good results obtained through limiting speeds in built-up areas are undeniable and are even admitted by those who formerly opposed such measures. From experiments carried out in European countries, it could be recommended that the speed limit be fixed by law at a definite figure[1].

Practical experience has shown that it is not sufficient to require drivers to drive within the distance they can see and to adjust their speed to visibility and traffic conditions. Many accidents are attributable to the fact that drivers fail to judge accurately the factors which determine the speed at which they should drive. But the authorities are no better able to fix, for every street, in light and heavy traffic, by day and by night, a maximum speed appropriate to the particular conditions. Consequently, the driver must get used to the fact that he has to regulate his speed in built-up areas not only according to his own judgement but according to the limit laid down by law. The oft-repeated argument that for the driver to accept the principle of a speed limit in built-up areas would be to give up one of his freedoms, is simply not true for his choice of either maximum or minimum speed has long since been limited by factors such as the density and diversity of traffic.

The most import arguments in favour of a speed limit in built-up areas are the following:

a) Experience has proved that the introduction of a speed limit in built-up areas, even if it is not strictly observed by all drivers, reduces the proportion of traffic travelling at speeds in excess of the legal maximum and narrows the range of speeds of the various vehicles.

b) Traffic is denser inside built-up areas than elsewhere and the density increases according to the economic and cultural importance of each area. Public service vehicles, traffic bringing in persons and goods, cyclists and pedestrians form a particularly large proportion of traffic in built-up areas. The accident rate increases, up to

1. On the other hand, British experience has led that country to move away from a uniform general speed limit in favour of greater variation.

a certain ceiling, depending on the density of traffic and the mixture of different means of transport. It is therefore not surprising that the number of accidents is higher inside than outside built-up areas. In point of fact, a speed limit may not always reduce the number of accidents but it invariably causes a drop in serious accidents by reducing the kinetic energy of the vehicles.

c) Road intersections and pedestrian crossings are particularly numerous in built-up areas. The large number of parked vehicles also hampers the easy flow of traffic. Under these circumstances high speeds in built-up areas cannot fail to lead to traffic accidents.

d) Drivers travelling at a moderate speed are better able to obey traffic rules, than those who drive faster. This applies especially to right of way and the approach to intersections, junctions and pedestrian crossings.

e) At higher speeds the driver can no longer see and fully realise all that is happening around him when travelling in built-up areas. This restriction of the field of vision necessitates a curb on speed and this must be taken into account when fixing the speed limit in built-up areas.

f) It is not only because of the narrowness of streets in built-up areas that a speed limit is needed. It is far more important on roads which are apparently well suited to traffic and encourage faster driving than the mixed bag of through and incoming passenger and goods traffic, pedestrians, cyclists, horse-drawn vehicles and motor vehicles really allows. At the same time a speed limit is a protection and a necessity for the many drivers who do not fully realise the latent dangers of driving in built-up areas.

g) A reasonable speed limit in built-up areas does not reduce the capacity of streets.

h) Limiting the speed of traffic makes for a quieter and smoother flow and in particular cuts down the amount of overtaking.

i) Owing to the heavy density of traffic, pedestrians can only cross the road elsewhere than at pedestrian crossings by trying first to reach the middle of the road before the vehicles coming from the left can reach them and then adapting their progress to the speed of vehicles coming from the right. A general speed limit in built-up areas tends to reduce the risk to pedestrians resulting from this kind of maneouvre.

j) A general speed limit in built-up areas is an indispensable aid to traffic safety because it compels drivers to reduce their speed. No doubt they sometimes travel faster than is permitted by the maximum speed limit, but nevertheless more slowly than outside built-up areas.

b) *Trend of accidents*

All countries which apply a speed limit in built-up areas report a considerable fall in the number of serious accidents since it was first introduced. This is clearly borne out by the following examples:

After the speed limit in built-up areas came into force in Germany, the number of fatal accidents fell in the first year by 2,402 (17.8 per cent) and the number of injured by 44,351 (12 per cent) compared with a year before although the number of accidents involving material damage increased by 11.2 per cent over the same period. This remarkable success was confirmed in subsequent years. In 1959 and 1960, the number killed in accidents in large cities was 15 per cent lower and in towns and villages 8 per cent lower than the reference figures for the years 1956/57 whereas the numbers killed in accidents outside built-up areas rose by 20 per cent in the same period. From January to May, 1963, the number of accidents involving bodily injuries occurring in built-up areas fell by 8.2 per cent compared with the corresponding period of the year before. In detail, the following reductions were observed:

killed	11.0 per cent
seriously injured	8.6 per cent
slightly injured	7.8 per cent

In Luxembourg, there were 12.1 fatal casualties for every 10,000 motor vehicles in 1959. After the introduction of the speed limit in built-up areas, as from 1st June, 1960, the figure fell to 11.0 in 1961 and 10.8 in 1962.

In the Netherlands, the number of accidents fell by 13 per cent in 1958 after introduction of the speed limit. In 1961, the number of accidents was 16 per cent lower than in 1957 (before the speed limit in built-up areas came into force). The distribution of fatal accidents in 1961 should also be noted. For every thousand road accidents, fatal casualties were made up as follows:

30 outside built-up areas (without speed limit)
5 in built-up areas (speed limit 50 km.p.h.)
23 in built-up areas (speed limit 70 km.p.h.)

Switzerland reported an increase in the number of fatal accidents in the period January to May, 1959. This tendency was suddenly halted after 1st June, 1959, when the speed limit came into force. Whereas in the first five months of 1959 there were some 16 per cent more fatal casualties than in the corresponding period of the previous year, the numbers killed in road accidents fell by 17 per cent after 1st June, 1959. It is true that the relative increase in accidents in built-up areas fell very little compared with

the period before the speed limit came into force, but the consequences of the accidents were much less severe.

In Great Britain, the introduction of a 30 m.p.h. (48 km.p.h.) speed limit in built-up areas in March 1935, cut the number of fatal accidents in almost wholly built-up urban police areas by 15 per cent and accidents causing bodily injury by 3 per cent as compared with almost wholly rural police areas. These percentages do not fully reflect the effects of the speed limit, since urban police districts and rural police districts do not exactly correspond as regards the proportions of built-up and non-built-up areas.

When a speed limit of 30 m.p.h. (48 km.p.h.) in built-up areas was introduced in Northern Ireland in 1956, it led to an immediate reduction of 31 per cent in fatal and other serious accidents and 22 per cent in other accidents occurring in built-up areas as compared with other districts.

c) *Pedestrian safety*

Although in the Federal Republic of Germany, for instance, the percentage of road accidents involving pedestrians was only about 5.9 per cent in 1962, the number of victims breaks down approximately as follows:

30.2 per cent killed
21.8 per cent seriously injured
16.4 per cent slightly injured

The same is true of other European countries.

The protection of pedestrians in traffic is a fundamental task for all countries and one to which special attention must be given. The constant increase in traffic makes it more difficult and more dangerous for pedestrians to cross the road because they adjust their progress to the speed of the first approaching vehicle and often fail to notice faster-moving vehicles coming up behind. A speed limit therefore cannot help but make for greater pedestrian safety because it is far easier for those waiting at the roadside to judge the speed of approaching vehicles when they are all travelling at much the same speed.

This was confirmed by experience in Switzerland. Whereas in 1958, before the introduction of the speed limit in built-up areas, 360 pedestrians were killed on the roads, in 1959—after the introduction of the speed limit—the figure was down to 336.

2. *Position adopted and justification*

a) *Countries in favour of speed limit of 50 km.p.h.*

Certain Delegations advanced the following arguments in support of a limit of 50 km.p.h.

a) The speed of motor vehicles on roads in built-up areas must be in keeping with the road and traffic conditions usually found in such areas. In the interests of road safety, the speed limit for such roads, where traffic is generally very mixed (vehicles of different categories), should be set as low as possible. Since traffic at peak periods is extremely heavy, especially in built-up areas, the problem is to determine the optimum speed for such areas.

b) Research which has been carried out in the United States suggests that there, the optimum road capacity in built-up areas is attained at round about 50 km.p.h. (see Diagram attached as an Annex). The capacity remains close to this optimum figure for a fairly wide range of speeds around 50 km.p.h. On these grounds there is little to choose between a speed limit of 50 km.p.h. or 60 km.p.h. But it is precisely for this reason that it is thought that the limit should be fixed at the lower figure, since while there is clearly no loss in traffic flow the lower speed makes for greater safety generally.

c) The lower the general speed limit the less overtaking there is. As overtaking is one of the most dangerous manœuvres in road traffic it is in the interest of road safety to reduce it as much as possible in built-up areas.

d) Unfortunately, there is a risk that the maximum permissible speed may sometimes be exceeded in built-up areas. In view of this fact, a limit of more than 50 km.p.h. would mean that drivers would also sometimes exceed that limit. This would mean that, in practice, traffic would travel at speeds harmful to road safety, as a test recently carried out by the United Kingdom Road Research Laboratory shows. [See "Research on Road Safety" (page 61) published by her Majesty's Stationery Office.]

In order to determine whether pedestrians are exposed to graeter danger in crossing a road when traffic is travelling faster, the Road Research Laboratory carried out the following experiment on a test track: a number of pedestrians were placed along the side of the track on which vehicles were travelling at an accurately measured speed. By pressing a button, the pedestrians had to indicate the last moment at which they would have tried to cross the track in front of a vehicle. To check whether the subject really behaved in practice as the experiment showed, they were asked actually to cross the track on several occasions. The experiment was repeated at different speeds and under various conditions.

Since the time needed for pedestrians to cross the road without running was known, the

data collected made it possible to calculate the frequency of accidents which would have occurred. It was found that the frequency increased rapidly when the speed of the vehicles exceeded 60 to 65 km.p.h., as is shown in the following table.

SPEED OF VEHICLES IN KM.P.H.

	24	32	40	48	56	64	80	96
Accidents	5	2	11	7	9	9	11	22
Near accidents	5	8	6	7	10	7	12	13
Total	10	10	17	14	19	16	23	35

In practice, the accident would probably not have occurred, as pedestrians start to run when they feel they are in danger. It is nevertheless important to know that errors in judging speed are more frequent when the speed of vehicles exceeds the limit allowed in built-up areas. This is clearly proved by the United Kingdom experiment.

The Austrian, German, Italian, Netherlands, Swedish and United Kingdom Delegations shared this view, the United Kingdom Delegation subject to the reservation already referred to.

b) *Countries in favour of a speed limit of 60 km.p.h.*[1]

a) When fixing maximum permissible speed limits in built-up areas some important economic aspects should not be forgotten. Speed is a means of gaining valuable time. Consequently the maximum permissible speed must not be set too low, because, even where there is a speed limit, drivers must still adjust their driving to local road, visibility and traffic conditions. Where these conditions allow a higher speed, a limit of 60 km.p.h. seems more economic than a lower limit. (Belgium, France, Luxembourg, United Kingdom.)

b) Private cars fitted with three-speed gear-boxes run most economically in third gear. If there is a speed limit of 50 km.p.h. such vehicles cannot normally travel in third gear because of the spacing of the gear ratios. (Belgium, Luxembourg.)

c) If there are no traffic lights at road intersections and the rule of priority on the right has to be observed, the optimum average speed of 50 km.p.h. can only be attained—having regard to the inevitable slowing down at intersections—by travelling at time at 60 km.p.h. With a maximum speed of 50 km.p.h. the average speed would be reduced to something under 40 km.p.h. (Belgium, Luxembourg.)

d) Even in built-up areas, the overtaking of slower road users cannot be avoided. To increase road safety in such cases it is necessary to reduce as much as possible not only the overtaking distance but the time taken to overtake. A speed limit of 60 km.p.h. allows a greater difference of speed and consequently a shorter overtaking time. (Belgium, France, Luxembourg, Switzerland.)

e) The stopping distance on a dry road is 34 m. at 60 km.p.h. and 26 m. at 50 km.p.h. Pedestrians are enjoined not to cross the road unless approaching vehicles are still some way off. This is generally taken to mean at least 50 m. A driver travelling at 60 km.p.h. therefore has ample time and space to brake or, if necessary, pull up when a pedestrian is preparing to cross the road. (Belgium, France, Luxembourg, Switzerland.)

f) The steady growth of motor traffic makes it necessary to make full use of road capacity in built-up areas. This means speeding up the flow of traffic within reasonable limits. In order to do this two factors must be taken into account in fixing the speed limit in built-up areas: all-round safety and rational traffic flow. The optimum average speed of 50 km.p.h. needed for this can only be attained by fixing the maximum speed at 60 km.p.h. (Belgium, France, Luxembourg, Switzerland.)

g) Experience having shown that drivers generally tended to exceed the speed limit of 50 km.p.h. in a varying degree, a decision in favour of a speed limit of 60 km.p.h. is indicated, but this must be strictly observed without any tolerance being allowed. (France-Switzerland.)

3. *Special grounds for fixing a speed limit other than 50 or 60 km.p.h. on certain roads in built-up areas*

Speed limits of more than 50 or 60 km.p.h. may be allowed on roads or sections or roads in built-up areas where the number of road intersections, traffic on side roads and pedestrian traffic are not very great and where the characteristics of the road permit driving at greater speeds than 50 or 60 km.p.h. In such cases, it is advisable to take as a limit the speed at which about 85 per cent of drivers travel under normal conditions. This criterion must be determined by careful measurements over a fairly long period.

On the other hand, it may become necessary

1. The countries named at the end of each paragraph expressed the views in question.

for safety reasons—on certain roads or sections of roads—(e.g. particularly narrow thoroughfares or blind corners) to reduce speeds to less than 50 or 60 km.p.h.

For streets in built-up areas where characteristics permit faster traffic and capacity is not yet saturated, it may become necessary to allow a higher level than that generally fixed for built-up areas. The difference should be great enough to give drivers as much as possible of the saving in time which they want. It must be borne in mind that at speeds of more than 70 km.p.h. traffic can no longer be controlled by synchronised lights because of the long stopping distances necessary (disproportionately long amber light).

4. *Final result*

a) It would be in the interest of the co-ordination of road traffic rules at European level if Member countries could agree on a uniform maximum speed limit. But the Working Party on Road Safety has been unable to reach such agreement. Five countries (Austria, Germany, Italy, Netherlands and Sweden) were in favour of a general speed limit of 50 km.p.h., whilst four countries (Belgium, France, Luxembourg and Switzerland) would prefer a general speed limit of 60 km.p.h.

The United Kingdom, while agreeing on the importance of having a maximum speed limit in built-up areas, does not consider that a uniform speed limit is absolutely necessary. If, however, the general view is for uniformity, the U.K. would support the lower limit of 50 km.p.h. with the provision for exceptions envisaged in III, 3 above.

In the absence of agreement, it will be for the Council of Ministers to take a decision on this matter.

b) A speed limit cannot be observed unless it is indicated by a suitable road sign. It is vitally important that the beginning and end of the speed limits should be clearly and uniformly indicated. It will be for Restricted Group No 3 to try to arrive at uniform regulations for all those countries[1].

The Committee of Deputies submit these facts to the judgement of the Council of Ministers, so as a draft Resolution.

IV. METHODS OF MEASUREMENT AND SUPERVISION

The notable reduction in serious accidents resulting from the introduction of speed limits may be largely attributed, among other reasons, to intensive supervision of traffic.

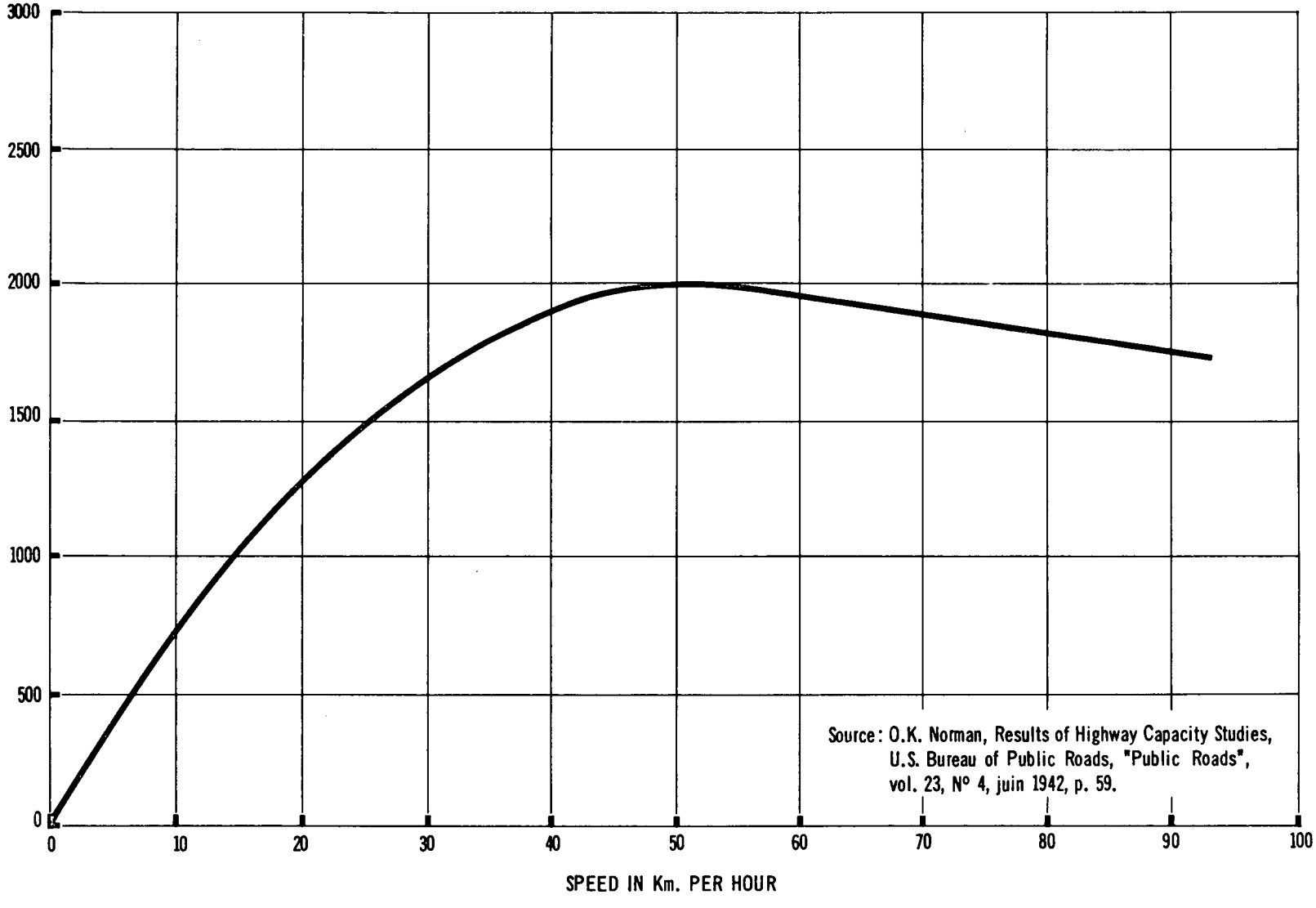
The methods of measurement still employed for this purpose (e.g. pursuit by police vehicles equipped with calibrated speedometers, with the possible use of photographic recording devices; measurement by means of optical reflecting devices (enoscopes); use of speed recording graphs) all demand a great deal of time and a great many policemen. There is no doubt, however, that driver discipline tends to be better the more supervision there is and the more promptly and severely infringements are punished. In this connection a campaign against offences where no accident is caused is of particular importance from the point of view of preventing road accidents.

By means of radar appliances, which can be used by two police officers, the police are able to accelerate and intensify speed checks in such a way that even inconsiderate and irresponsible drivers feel obliged to respect the speed limits. The photograph of the vehicle showing its registration number and the traffic situation, together with the recorded indication of speed, date, place and time is not only important for legal proceedings. It also serves the purpose of road safety education by providing a personal example and helps to improve relations between the public and the police who are obliged to institute proceedings and apply a penalty.

1. France entered a reservation on this point, for a general regulation exists to the effect that the beginning and end of the speed limits shall be indicated by the place-name signs.

ANNEX

ROAD CAPACITY IN VEHICLES PER HOUR



SUMMARY

Section III

INLAND WATERWAYS TRANSPORT

Resolution No 9 concerning
THE COMPILATION OF A LIST OF DEVELOPMENT PROJECTS FOR INLAND WATERWAYS OF INTEREST TO EUROPE AS A WHOLE

THE COUNCIL OF MINISTERS OF TRANSPORT;

Meeting in Paris, on 3rd December, 1964;

Having regard to the Report below [CM(64)13 final; chapter IV: Inland Waterways] of the Committee of Deputies;

DECIDES to replace the list of projects for waterways of interest to Europe set out in Resolution No 1 (Inland waterways) by the following list:

1. Improvement of the Dunkirk-Scheldt link and its international extensions.
2. Improvement of the Scheldt-Rhine link.
3. Improvement of the Meuse and its international connections.
4. Meuse-Rhine link, with connection to Aachen.
5. Canalisation of the Moselle above Thionville.
6. Improvement of navigation conditions on the Rhine, between Strasbourg and Saint-Goar.
7. Rhône-Rhine link.
8. Development of the Rhine between Rheinfelden and Lake Constance.
9. Rhine-Main-Danube link.
10. Development of the Elbe, with link from Hamburg to the inland waterways network of Western Europe, including the Mittelland Kanal.
11. Oder-Danube link.
12. Link between Lake Maggiore and the Adriatic.

REPORT BY THE COMMITTEE OF DEPUTIES ON INVESTMENT AND THE TREND OF TRAFFIC

[*CM* (64) 13 *final*]

Chapter I. GENERAL

It is customary, at the autumn session of the Council of Ministers, for the Committee of Deputies to report on investment in the previous year for railways, roads and inland waterways and on the activities of each of these means of transport.

In presenting the results for 1963, the Committee of Deputies thought it advisable to preserve, for its report, the same structure which has been used for a long time. This will make year-to-year comparisons casier.

Thus, a separate chapter is devoted to the situation of each means of transport coming within the competence of the E.C.M.T., whilst the first chapter sums up the factors which are likely to attract most attention.

Country statistics for 1963 have been combined into general figures relating to all Member countries of the E.C.M.T. on the one hand and the six countries of the European Economic Community on the other.

Results:

In brief, the features of 1963 for the various means of transport were as follows:

a) Railways

The electrification of the railways continues, but at a slower pace. The analysis for the period from October 1963, to October 1964[1], shows that only 353 km were electrified on European main lines as compared with 914 km for the previous corresponding period. The figure for all lines—whether forming part of the main line system or not—is 863 km compared with 1,268 km in the previous year.

By October 1964, about 75 per cent of the main lines had been electrified.

The programmes of the Railway Administrations provide for the electrification of another 3,200 km of main line and 3,300 km of other lines by 1968.

Owing to differences in the types of current used, the number of multi-current locomotives is growing. 125 are already in service in nine countries and 95 are being built.

Diesel traction has developed considerably, expecially for the most powerful locomotives: at the end of 1964 the number of locomotives will reach 14,533 compared with 13,264 at the end of 1963.

This year, a study covering the ten years since the establishment of the E.C.M.T. has been devoted to the trend of energy consumption by the railways in consequence of a 60 per cent increase in the electrified network since 1963 and a four-fold increase in diesel stock. Chapter II of this report reproduces the basic elements of this study; stress should be laid on the particularly satisfactory results which have thus been revealed.

It is found, indeed, that the saving of energy per traffic unit in ten years amounts to 42 per cent in the six countries of the European Economic Community, 36 per cent in the other countries and 40 per cent for the E.C.M.T. as a whole.

Passenger traffic in 1963 was practically unchanged: 1.5 per cent down in number of passengers but 0.6 per cent up in number of passenger-kilometres.

On the other hand, goods traffic went up by 3.9 per cent in terms of tons carried and 5.9 per cent in terms of ton-kilometres.

1. Exceptionally, electrification is generally studied in periods of one year starting in October.

National situations which depart appreciably from these average figures are explained in Chapter II of the report.

b) Roads

The present state of statistics does not yet allow road transport activity to be evaluated directly. As in previous years it has therefore been necessary to limit the work to an analysis of the trend of numbers and a review of infrastructure development works.

The number of vehicles continued to rise. Yet the rate of expansion was slower in 1963 than in 1962: the increase in numbers for all categories (private cars, buses, lorries) was only 12.4 per cent compared with 14.5 per cent. The rate of growth for private cars alone was 13.3 per cent compared with 16 per cent.

In the two-wheel sector, machines of small engine capacity show an increase of 6.1 per cent, whereas large-capacity machines continue to decline, this time at a rate in the neighbourhood of 10 per cent.

The chapter of the report devoted to roads states the situation of the international network as defined by the Geneva Declaration of 1950. It shows that 462 km of motorways were built in 1963, of which 246 km were in the countries of the European Economic Community. For the other road categories and especially Category II, major sections are inadequate for the traffic they have to carry. The present state of affairs in this respect is shown on a map.

However, efforts were made by the governments in 1963 to equip the international network. The expenditure voted for this purpose shows an average increase of 30 per cent over 1962. In Austria, France, Italy, Spain and Yugoslavia, the increase is over 50 per cent.

As last year, the report gives an outline of the work done on the international network, grouped according to highway numbers.

c) Inland waterways

In 1963, inland waterways traffic declined as compared with the previous year: 334 million tons carried against 341 million in 1962. This situation is partly explained by the severe winter. But the increase over 1960 is small: 5.5 million tons. The increase between 1955 and 1962 represents only 33 per cent whereas the gross national product has risen 43 per cent in the same length of time.

The report analyses the situation in each of the countries interested in inland waterways. It is found that domestic transport was generally more severely affected than international transport which in certain cases showed an increase. In some countries, on the other hand, there was an increase in the volume of transport in 1963: this was so in France, in terms of tons carried, and in Austria, Switzerland and Yugoslavia.

The modernisation of the fleet continues, particularly by bringing self-propelled barges into service, with a capacity much above the present average capacity for the fleet.

The total tonnage rose from 17,997,000 tons to 18,376,000 tons.

The pusher fleet has also been developed: at 1st January, 1964, its capacity amounted to 351,517 tons (about 2 per cent of the fleet).

This year, at the request of the Council of Ministers, the list of 12 inland waterways projects of interest to Europe as a whole, which was drawn up at the time of the formation of the E.C.M.T., has been reviewed and clarified.

Thus, the canalisation of the Moselle now refers only to the part above Thionville; the improvement of navigating conditions on the Rhine—previously between Mainz and Saint-Goar—now stretches right up to Strasbourg; the development of the Upper Rhine now covers the Rheinfelden-Lake Constance section. Finally, the Lake Maggiore-Adriatic link replaces the Lake Maggiore-Venice link.

A Resolution is proposed for the approval of the Council, to take the place of Resolution No 1 adopted in October 1953.

Chapter II. RAILWAYS

I. ANALYSIS OF RAILWAY TRAFFIC

A. TRAFFIC IN 1963

a) *Passenger traffic:*

1. An analysis of traffic shows that the number of passengers carried in the Member countries as a whole declined by 1.0 per cent (E.E.C. countries- 1.1 per cent) and that the number of passenger-kilometres increased by 1.7 per cent (1.7 per cent in the E.E.C. countries) compared with the results for 1962.

2. The very slight movement observed in 1961 and 1962 is thus seen to have continued (see Graph 1). The changes in the number of passengers carried are in general fairly small, except for Spain and Austria where they increased by 14.8 per cent and 8.0 per cent respectively, and Luxembourg, Sweden and the United Kingdom which show declines ranging between 14.8 per cent and 2.75 per cent. The reduction in the number of passengers carried and the very slight rise in passenger-kilometres over the countries as a whole may be explained by competition from buses and aircraft, and even more by the increasing number of private cars. It indicates that the average length of journey per passenger has again increased.

TABLE I. PASSENGER TRAFFIC

In percentage.

COUNTRY	PASSENGERS CARRIED 1963/1962	PASSENGER-KILOMETRES 1963-1962
Belgium	— 0.8	— 0.1
France	+ 3.5	+ 5.6
Federal Republic of Germany	— 3.5	— 2.8
Italy	— 2.7	+ 2.2
Luxembourg	— 14.8	— 3.4
Netherlands	+ 0.3	+ 0.4
E.E.C. countries	— 1.1	+ 1.7
Austria	+ 8.0	+ 3.1
Denmark	— 1.7	— 0.9
Greece	— 1.7	— 2.7
Ireland	+ 0.1	— 1.6
Norway	+ 1.0	+ 1.4
Portugal	+ 4.7	+ 6.0
Spain	+ 14.8	+ 14.8
Sweden	— 6.2	— 0.7
Switzerland	+ 1.9	+ 3.2
Turkey	— 4.8	— 2.4
United Kingdom	— 2.75	— 0.77
Yugoslavia	+ 4.3	+ 7.7
Other countries	— 1.0	+ 2.6
All countries	— 1.0	+ 1.9

3. In terms of passenger-kilometres there are striking increases in Spain, Portugal, Turkey and France.

4. The full results are given below in Table 1.

b) Goods traffic:

5. The number of tons carried increased by 3.9 per cent for the 18 countries as a whole (E.E.C. countries + 3.7 per cent). The number of ton-kilometres also increased, by 5.9 per cent (E.E.C. countries + 5.6 per cent). The trend is thus more favourable than in 1962 and 1961, when the figures for both tons carried and ton-kilometres were practically unchanged.

In terms of ton-kilometres, the increase was most marked in Yugoslavia (+ 15.1 per cent), the Netherlands (+ 10.6 per cent), the Federal Republic of Germany (+ 9.0 per cent), Denmark (+ 7.8 per cent), Spain (+ 7.4 per cent), Turkey (+ 7.3 per cent) and Switzerland (+ 6.6 per cent). Only the Irish railways showed a slight decline in ton-kilometres. In terms of tons carried, the increase was greatest in Yugoslavia (+ 13.3 per cent), the Netherlands (+ 11.4 per cent) and Switzerland (+ 6.4 per cent).

6. For the first time a better trend is observed in the traffic in non-E.E.C. countries (see Table II):

TABLE II. GOODS TRAFFIC

In percentage.

COUNTRY	TONS CARRIED 1963/1962	TON-KILOMETRES 1963/1962
Belgium	+ 4.8	+ 5.4
France	+ 3.8	+ 3.0
Federal Republic of Germany	+ 3.2	+ 9.0
Italy	+ 2.4	+ 2.4
Luxembourg	— 1.1	+ 1.9
Netherlands	+ 11.4	+ 10.6
E.E.C. countries	+ 3.7	+ 5.6
Austria	+ 4.4	+ 4.4
Denmark	+ 5.5	+ 8.1
Greece	+ 5.0	+ 6.1
Ireland	— 2.6	— 0.3
Norway	+ 1.9	+ 5.8
Portugal	+ 4.5	+ 5.0
Spain	— 1.8	+ 7.4
Sweden	+ 0.9	+ 5.4
Switzerland	+ 6.4	+ 6.6
Turkey	+ 5.5	+ 7.3
United Kingdom	+ 2.8	+ 2.7
Yugoslavia	+ 13.3	+ 15.1
Other countries	+ 4.2	+ 6.5
All countries	+ 3.9	+ 5.9

B. Trend of traffic in the early months of 1964

An analysis of passenger traffic in the first six months of 1964, as compared with the results for the corresponding period of 1963, shows a remarkable increase in the figures for passengers carried in Spain and Yugoslavia, whereas preliminary figures for Ireland and Norway are unfavourable. In terms of passenger-kilometres, there was a fairly heavy increase in Denmark, Greece, Luxembourg, Portugal, Spain, Switzerland and Yugoslavia.

Preliminary figures for goods traffic are very much affected by the exceptionally long period of frost in the first quarter of 1963, which held up a great deal of road and waterway transport in several countries. The railways benefited from this situation and were able to increase their performance both in tons and in ton-kilometres. Consequently, the results for the first six months of 1964, as compared with those for the corresponding period of 1963, do not give an accurate picture; the table below therefore gives comparative development percentages for 1964/1963 and for 1964/1962. As can be seen development was fairly satisfactory in all countries except Italy.

RESULTS FOR THE FIRST SIX MONTHS OF 1964

In percentage.

COUNTRIES	PASSENGERS CARRIED 1964/1963	PASSENGER-KILOMETRES 1964/1963	TONS CARRIED 1964/1963	TONS CARRIED 1964/1962	TON-KILOMETRES 1964/1963	TON-KILOMETRES 1964/1962
Austria[2]	+ 1.0	+ 1.7	— 1.1	+ 3.2	+ 1.4	+ 6.6
Belgium	— 1.3	+ 2.6	—	+ 7.1	— 2.4	+ 5.4
Denmark	+ 2.7	+ 6.7	— 8.4	+ 3.5	— 6.4	+ 4.6
France	+ 2.7	+ 3.7	+ 6.2	+ 9.0	+ 6.5	+ 11.7
Germany (F.R.)	+ 0.2	+ 0.8	+ 0.8	+ 5.7	— 6.4	+ 8.9
Greece[1]	+ 5.3	+ 7.3	+ 6.6	+ 5.0	+ 9.1	+ 14.2
Ireland[1]	— 6.4	— 0.4	+ 11.9	+ 6.6	+ 8.1	+ 2.9
Italy	— 3.4	— 1.9	— 7.3	— 2.9	— 7.2	— 6.6
Luxembourg	+ 3.1	+ 11.1	+ 2.5	+ 4.1	— 0.2	+ 7.3
Netherlands	— 3.0	— 1.5	— 2.3	+ 12.9	— 4.6	+ 11.1
Norway	— 7.7	— 5.9	+ 12.9	+ 11.3	+ 8.2	+ 8.4
Portugal	+ 4.2	+ 6.5	+ 0.7	+ 8.4	+ 1.7	+ 12.7
Spain[1]	+ 22.5	+ 21.7	+ 7.2	— 0.3	+ 14.0	+ 32.6
Sweden	— 2.9	...	+ 9.2	+ 12.0	+ 2.4	+ 11.2
Switzerland	+ 2.5	+ 6.9	+ 8.0	+ 12.7	+ 5.3	+ 13.1
Turkey	+ 1.5	— 1.6	+ 11.2	+ 19.6	+ 3.4	+ 13.4
United Kingdom	+ 0.3		+ 4.5	+ 4.4	+ 4.5	— 4.8
Yugoslavia	+ 10.8	+ 18.8	+ 13.4	+ 29.3	+ 13.8	+ 31.5

1. First 3 months.
2. First 5 months.

II. SURVEY OF SELECTED CATEGORIES OF INVESTMENT

A. Electrification[1]

a) *Increase between October 1963 and October 1964*

1. A review of the progress made since October 1963, shows that the growth of electrification has slowed down. The length of electrified main lines amounted, in round figures, to 22,800 (16,000) km in October 1964. It had thus increased by 353 (290) km, 304 (241) km of which were electrified with 16 2/3-cycle single-phase AC and 49 (49) with 50-cycle single-phase AC. 38 (38) kilometres previously electrified with three phase AC were converted to 3,000-volt DC. For the second year in succession no line was electrified with 1,500 volts DC. In addition, 510 (299) km of line not ranking among the European main line network were electrified.

2. Out of a total length of 186,800 (93,400) km for the whole network, electrified lines now account for approximately 43,700 (24,100) km, representing in round figures 23.5 (25.7) per cent. Table I shows the breakdown of electrified lines among the various types of current:

3. The increase in electrified lines between October 1963 and October 1964, was less than

1. The figures in brackets refer to the six countries of the E.E.C.

Table I

TYPE OF CURRENT	ALL E.C.M.T. COUNTRIES KM	ALL E.C.M.T. COUNTRIES PER CENT		E.E.C. COUNTRIES KM	E.E.C. COUNTRIES PER CENT	
DC 600/1,200 volts	1,878	4.3		158	0.7	
DC 1,500 volts	7,306	16.7	44.3	6,355	26.4	61.8
DC 3,000 volts	10,180	23.3		8,346	34.7	
Single-phase AC 16 2/3 cycles	19,407	44.5		5,457	22.7	
Single-phase 25 cycles	47	0.1		—	—	
Single-phase 50 cycles	4,152	9.5	55.7	3,037	12.6	38.2
Three-phase AC	709	1.6		709	2.9	
Total	43,679	100.0		24,062	100.0	

in the preceding years. Only 8 (2) Member countries electrified new lines (Austria, France, the Federal Republic of Germany, Norway, Portugal, Spain, Sweden and the United Kinddom).

Table II below gives a general picture of the achievements in electrification since the end of 1953:

TABLE II

In kilometre.

SITUATION	LENGTH OF ELECTRIFIED NETWORK	LENGTH ELECTRIFIED DURING THE YEAR
End 1953	27,295	1,061
End 1954	28,356	1,639
End 1955	29,995	2,022
End 1956	32,017	1,755
End 1957	33,772	1,682
End 1958	35,454	1,592
End 1959	37,046	1,589
End 1960	38,635	1,465
End 1961	40,100	1,520
End 1962	41,620	1,268
End 1963	42,888	
October 1964	43,679	863[1]

1. Octobre 1963 - October 1964.

4. Since 1957 it is the Italian railways which have had the longest electrified network (7,980 km) followed by the French railways (7,806 km), the Swedish railways (6,951 km) and the German railways (5,465 km). The four countries in which electrified lines represent the highest percentage of the total network are Switzerland (100 per cent), the Netherlands (50 per cent), Italy (49 per cent) and Norway (45 per cent).

b) *Programme until 1968*

5. Under the existing programmes of the Railway Administrations the network of European electrified main lines will be extended by a further 3,200 (1,900) km, and other lines by 3,300 (1,400) km between October 1964 and the end of 1968. The most important programmes are those of the German (approximately 2,100 km), the Yugoslav (about 1,600 km), the French (approximately 1,000 km) and the British railways (approximately 400 km). Italy is continuing its programme of changing over from 3-phase AC to 3,000-volt DC on 90 kilometres of European main lines. The Spanish railways intend to change from 1,500-volt DC to 3,000-volt DC on 224 km of line.

6. On the basis of these programmes, the network of European electrified main lines will have a total length of 26,000 (17,900) km by 1968; the length of all electrified lines will be 50,200 (27,400) km, the proportions represented by the four principal types of current being 14.2 (23.3) per cent using 1,500-volt DC; 22.7 (32.4) per cent using 3,000-volt DC: 44.0 (27.5) per cent using 16 $\frac{2}{3}$-cycle single-phase AC and 14.2 (14.8) per cent using 50-cycle single-phase AC. The proportion using three-phase AC will be 0.8 (1.4) per cent, that using 600 to 1,200-volt DC 4.0 (0.6) per cent, and that using 25-cycle single-phase AC 0.1 (—) per cent.

7. Graph 2 (*a*) shows the increase in European electrified main lines, broken down among the four principal types of current, between October 1955 and October 1964, with estimates up to 1968, and Graph 2 (*b*) shows the annual increase in all electrified lines for the years 1954 to 1964.

c) *The electrification map*

8. The map of European electrified main lines has been brought up to date as at October 1964. It also shows the connections between Belgrade and Greece and Belgrade and Turkey, which represent about 2.600 km of main line. To enable a comparison to be made with the figures given in the past, the percentage of electrification for the two networks is reproduced below:

LENGTH OF THE NETWORK OF EUROPEAN MAIN LINES	WITHOUT CONNECTIONS FROM BELGRADE TO GREECE AND TURKEY	WITH CONNECTIONS FROM BELGRADE TO GREECE AND TURKEY
	31,100 (21,300) km	33,700 (21,300) km
of which:		
electrified by October 1964..	74 (75) %	68 (75) %
Probably electrified by the end of 1968	82 (84) %	77 (84) %

9. As well as the electrification of main lines, the map shows all other electrified lines (except narrow-gauge lines).

d) *Multi-current locomotives and railcars*

10. The railways have taken into account the increasing number of points of contact between electrified networks with different systems. Thus in 9 (5) countries the number of multi-current locomotives, etc. now in use amounts to 125 (97), while 95 (95) are under construction and orders

are likely to be placed for 22 (22) others. These figures include 8 (7) locomotives for three types and 31 (17) for four types of current. The total number of multi-current locomotives, etc., in service, under construction or planned is thus 242 (214).

11. The use of multi-current locomotives greatly simplifies the running of passenger trains, since transitions can be affected among several electrified networks using different current systems without change of locomotive and without even stopping at the frontier. One electric train (the "Cisalpin") passes through five countries with four current systems. Several trains hauled by electric locomotives cover the Paris-Brussels-Amsterdam line with three different current systems.

B. Diesel traction[1]

a) *Trend of numbers*

1. At the end of 1963, the number of diesel locomotives reached a total of 13,264 (6,950): 8,801 (5,307) were used for shunting and 4,463 (1,643) for main line service. The British railways have the greatest number of diesel locomotives, namely 4,060 (30.6 per cent of the total) of which 2,051 are for main line service; they are followed by the German (2,999) and French railways (2,173).

2. At the end of 1964 there will be approximately 14,500 (7,500) in service. Deliveries are accounted for as follows: 500 locomotives for the British railways, 200 for the German and French, and 350 for the other networks.

3. Of the total of diesel locomotives of more than 350 hp, about 41 (53) per cent will be used mainly for shunting and 50 (47) per cent for main line service at the end of 1964.

4. The growth in the number of diesel locomotives broken down by power categories is shown in the following table and in the attached Graphs 3 and 4.

A determining factor in this development has again been the progress of dieselisation in the United Kingdom. At the end of 1964 approximately 50 per cent of locomotives in the 1,001 to 2,000 hp class, more than 90 per cent of those in the category above 2,000 hp, and about 30 per cent of the total of some 14,500 diesel locomotives, will be owned by British Railways. It must be pointed out that if other large networks have not carried dieselisation so far for heavy traction, it is because they have given first place to electrification.

POWER CATEGORY	NUMBER OF DIESEL LOCOMOTIVES			
	end 1950	end 1954	end 1963	end[1] 1964
Up to 350 hp	2,047 (1,627)	2,228 (1,741)	5,333 (3,329)	5,604 (3,502)
From 351 to 1,000 hp	166 (144)	839 (392)	4,780 (2,691)	5,118 (2,819)
From 1,001 to 2,000 hp		51 (13)	2,704 (904)	3,079 (1,116)
2,001 hp and over	—	6 (2)	447 (26)	732 (59)
Total	2,213 (1,771)	3,124 (2,148)	13,264 (6,950)	14,533 (7,496)

1. Estimate.

5. Up to July 1964, the Eurofima Company had financed a total of 595 (496) diesel locomotives for nine Railway Administrations. In 1963 deliveries amounted to 223 locomotives.

6. The trend in numbers of diesel railcars is shown by the following table:

SITUATION	NUMBER OF DIESEL RAILCARS	
End 1950	2,664	(1,880)
End 1956	4,617	(3,110)
End 1960	8,252	(3,401)
End 1963	9,007	(3,473)
End 1964[1]	9,025	(3,481)

1. Estimate.

7. Of the total of 9,025, the number belonging to the British railways alone is 4,100. At the end of 1964 only three other Administrations will have more than 1,000 railcars, namely:

France	1,127
Federal Republic of Germany	1,045
Italy	1,009

The trend in the number of diesel railcars is shown in Graph No 5.

b) *Standardization*

8. The Council of Ministers having agreed at its May 1964 Session that the next study of standardization of locomotives be submitted to

1. The figures in brackets refer to the six countries of the E.E.C.

it in 1965, this report gives no figures of the proportion of total numbers represented by standardized diesel locomotives as they will be included in that study.

C. THE RELATIVE IMPORTANCE OC ELECTRIC AND DIESEL TRACTION[1], [2]

1. In 1963 the proportion of steam traction was further reduced to 24.9 (25.4) per cent in terms of train-kilometres and 32.2 (30.8) per cent in terms of gross ton-kilometres.

2. Electric traction accounted for 47.4 (47.9) per cent in terms of train-kilometres, and diesel traction for 27.7 (26.7) per cent. In terms of gross ton-kilometres electric traction accounted for 55.6 (58.4) per cent of total traffic, although only 25.4 (25.5) per cent of the total network was electrified in 1963, and diesel traction for 12.2 (10.8) per cent.

3. The power consumed for electric traction rose from 7,740 (4,090) million kWh in 1953 to 11,000 (6,520) million kWh in 1958 and 15,960 (10,160) million kWh in 1963. The consumption of diesel fuel, which was 0.22 (0.14) million tons in 1953 and 0.66 (0.38) million tons in 1958, amounted to 1.61 (0.71) million tons in *1963.*

D. GOODS WAGONS

a) *Trend of numbers, deliveries and standardization in* 1963

Since the report CM(64)7 (final) of 23rd July, 1964, contains all data up to 1963 inclusive, the present report gives no information on the trend of numbers and deliveries or the progress of standardization.

b) *Development of the Europ Pool*

1. The Railways have studied the possibility of including specialised wagons—large-capacity covered wagons (80 cu.m.), sliding-roof wagons and automatic gravity-discharge wagons—as well as flat wagons in the Europ Pool.

2. It emerged that it would be premature to put specialised wagons into ordinary service on international runs because of the wide variations in numbers from one network to another, their irregular use in international traffic and the small possibility of using them on return journeys. Compensation in kind would scarcely be possible and the amount of reduction of empty running, which is the aim of joint operation, would be uncertain.

3. As far as flat wagons are concerned, it became clear that it would be difficult to extend the Europ Convention to all wagons of this type in the near future, but it seemed none the less that the creation of a pool limited to certain member Administrations of the Community could be envisaged. An *ad hoc* Working Party consisting of the networks which were, *a priori*, disposed to take part in such a pool (the Belgian, French, German, Luxembourg and Swiss railways) was instructed to study the problem and it was understood it would be permissible for a non-member network to join any pool which might be set up.

E. AUTOMATIC COUPLING

a) *Technical problems*

1. The French and German railways, which already have more than 140 wagons fitted with automatic coupling and will shortly have more than 200 vehicles similarly equipped, have pushed ahead with tests designed mainly to ensure that certain conditions required for the future European automatic couplings are practicable, particularly as regards a simple traction coupling for fitting to existing wagons and an automatic coupling for compressed air brake hoses which is not yet to be seen on any goods rolling stocks in the world.

2. The tests have confirmed that these special requirements raise certain problems that the experts are endeavouring to solve so that the European automatic coupling may be distinctly in advance of previous systems. The tests also make it possible to obtain all the information which will be needed when the time comes to choose the type of coupling head.

3. Research carried on simultaneously into the method of transition from manual to automatic coupling is also making satisfactory progress.

b) *Economic problems*

4. As far as the economic aspect of introduction of automatic coupling is concerned the U.I.C. has begun a comparative study extending sufficiently far ahead (1985 in principle) of the position

1. The figures in brackets refer to the six countries of the E.E.C.

2. The figures in paragraphs 1 and 2 do not include British Railways as these do not supply figures for gross ton-kilometres.

of railways with or without automatic couplings taking into account traffic trends and technical developments as they might be affected by the introduction of automatic coupling. The intermediate stages will also be described.

III. Consumption of energy[1]

1. During the ten years following the setting up of the E.C.M.T., the size of the electrified network has increased by nearly 60 per cent, and the number of diesel locomotives has quadrupled. As was to be expected, this rationalisation of traction has also brought about an appreciable drop in the consumption of energy, although for the E.C.M.T. countries as a whole there has been a considerable overall increase in services expressed in terms of ton-kilometres and passenger-kilometres.

2. The statistics supplied by the Member countries of their consumption of coal, oil fuel, diesel fuel and electrical energy for 1953 and 1963 have been recalculated on a uniform basis:

Table I. CONVERSION OF SOURCES OF ENERGY

1 ton coal	=	1	t CE[1]
1 ton brown coal	=	0.5	t CE
1 ton fuel oil	=	1.35	t CE
1 ton diesel fuel	=	1.4	t CE
1,000 kWh Electric current	=	0.5	t CE

1. Coal equivalent.

3. The proportion of energy consumed by steam traction has declined from 90.7 (89.1) to 69.1 (62.6) per cent, while the proportion for diesel and electric traction has increased, the first from 0.7 (1.0) to 6.9 (6.1) per cent and the second from 8.6 (9.9) to 24.0 (31.3) per cent. The figures for the Member countries as a whioe are reproduced in the table below and shown graphically in Annex VI (*a*).

4. Since it depends not only on the rate of modernisation of traction over the period 1953-1963, but also of the state of modernisation at the start of that period and the expansion of transport over the period, the trend in energy consumption has by no means been uniform in the various Member countries. To enable comparisons to be made, the table below summarises the percentage gains and losses in relation to energy consumed and transport services provided respectively.

1. The figures in brackets refer to the six countries of the E.C.E.

Table II. CONSUMPTION OF ENERGY

YEAR / TYPE OF TRACTION	YEAR 1953		YEAR 1963	
	1000 t CE (1)	%	1000 t CE	%
Steam	40,740 (18,415)	90.7 (89.1)	22,922 (10,154)	69.1 (62.6)
Diesel	314 (201)	0.7 (1.0)	2,259 (984)	6.9 (6.1)
Electric	3,868 (2,047)	8.6 (9.9)	7,978 (5,081)	24.0 (31.3)
All Types	44,922 (20,663)	100.0	33,161 (16,219)	100.0

1. Coal equivalent.

5. For the Member countries as a whole consumption of energy declined by 26.2 per cent over the period 1953 to 1963 although during that period the number of ton-kilometres and passenger-kilometres increased by 28.6 per cent and 19.6 per cent respectively.

6. In the case of the E.E.C. countries the saving in energy between 1953 and 1963 averages 21.5 per cent, in the face of average increases of 44.5 per cent in ton-kilometres and 25.4 per cent in passenger-kilometres. Especially noteworthy are the reductions in consumption of approximately one-half in Belgium and approximately 60 per cent in Luxembourg, in the face of a comparatively small increase in services. Special mention should also be made of the reduction of 20 per cent in energy consumption in France in the face of an increase in passenger and goods services considerably exceeding the average.

7. As far as the other countries are concerned the saving in energy amounts to 30.2 per cent on the average over the period under review, compared

with an average increase in services of 6.5 per cent for goods traffic and 12.3 per cent for passenger traffic. Four countries show an increase in consumption of energy, two of them (Switzerland and Yugoslavia), showing, admittedly, an increase in services greatly exceeding the average, and the other two (Greece and Portugal) similarly showing an appreciable increase in services. The great decrease in consumption of energy in Denmark and the United Kingdom, which amounts to from 50 to 60 per cent, is attributable to the rapid transition from steam to diesel traction.

TABLE III. TREND IN CONSUMPTION OF ENERGY AND GOODS AND PASSENGER TRAFFIC FROM 1953 TO 1963

In percentage.

COUNTRY	ENERGY CONSUMPTION (T CE)	PASSENGER GOODS TRAFFIC (TKM + V-KM)	GOODS TRAFFIC (TKM)	PASSENGER TRAFFIC (V-KM)
Belgium	— 51.7	+ 12.7	+ 17.5	+ 8.9
France	— 20.4	+ 50.6	+ 56.2	+ 42.1
Federal Republic of Germany	— 19.1	+ 30.4	+ 42.6	+ 14.4
Italy	— 6.3	+ 30.9	+ 32.7	+ 30.0
Luxembourg	— 61.1	+ 3.8	+ 17.3	— 25.9
Netherlands	— 37.5	+ 21.6	+ 25.9	+ 19.5
E.E.C. countries	— 21.5	+ 35.5	+ 44.5	+ 25.4
Austria	— 5.0	+ 42.6	+ 52.8	+ 32.0
Denmark	— 58.4	+ 11.2	+ 30.9	+ 3.5
Greece	+ 4.8	+ 30.2	+ 34.3	+ 28.1
Ireland		+ 22.8	+ 1.1	+ 43.3
Norway	— 37.0	+ 23.6	+ 31.2	+ 16.9
Portugal	+ 19.7	+ 43.7	+ 19.3	+ 55.0
Spain	— 23.6	+ 3.1	— 20.8	+ 26.5
Sweden	— 21.7	+ 10.1	+ 27.2	— 13.9
Switzerland	+ 29.3	+ 51.4	+ 99.4	+ 31.6
Turkey	— 1.1	+ 4.2	+ 2.1	+ 6.5
United Kingdom	— 49.7	— 17.2	— 27.4	— 5.9
Yugoslavia	+ 42.0	+ 91.9	+ 102.1	+ 78.4
Other countries	— 30.2	+ 9.4	+ 6.5	+ 12.3
All countries	— 26.2	+ 24.2	+ 28.6	+ 19.6

8. To give a better idea of the progress achieved, Table 4 and Annex VI (*b*) have been prepared on the basis of consumption of energy per unit of traffic (ton-kilometres-tkm + passenger-kilometres-Vkm).

9. For the Member countries as a whole, consumption per traffic unit (specific consumption) has fallen by 41 per cent (for E.E.C. countries and other countries by 42 and 36 per cent respectively). Progress is thus remarkable. It must however be noted that the level of specific consumption is on the average much lower in the E.E.C. countries (60 t CE per million traffic units) than in the others (102 t CE per million traffic units).

TABLE IV. CONSUMPTION OF ENERGY PER UNIT OF TRAFFIC

COUNTRY	SPECIFIC ENERGY CONSUMPTION T CE : MILLION (TKM + VKM)		ECONOMY FROM 1953 TO 1963 PER CENT
	1953	1963	
Belgium	121	52	57
France	103	54	47
Federal Republic of Germany	123	76	38
Italy	64	46	28
Luxembourg	140	53	63
Netherlands	65	34	49
E.E.C. countries	103	60	42
Austria	102	68	33
Denmark	106	40	62
Greece	173	140	19
Ireland		45	
Norway	110	56	54
Portugal	147	123	17
Spain	201	149	26
Sweden	68	49	29
Switzerland	59	50	15
Turkey	163	154	5
United Kingdom	194	117	40
Yugoslavia	161	119	26
Other countries	160	102	36
All countries	128	76	41

10. In 1963 the only important consumers of coal were the German (5.58 million tons), British (5.23 million tons, compared with 13.29 million tons in 1953), Yugoslav (3.12 million tons), French (2.22 million tons) and Spanish railways (1.49 million tons); only the Yugoslav railways increased their consumption of locomotive coal which rose from 2.2 million tons in 1953 to 3.12 million tons in 1963.

11. The technical rationalisation of traction achieved by the substitution of diesel and electric for steam traction had had the promised results in terms of saving of energy.

Chapter III. ROADS

I. Trend of motor vehicle numbers

Table 1 traces in appendix this trend over the past three years.

For the first time, a rather less rapid increase in vehicle numbers will be noted.

For the 15 countries for which data are known, the increase for all categories of vehicles amounted to 12.4 per cent as against 14.5 per cent from 1961 to 1962. For the six E.E.C. countries the overall increase was 12.8 per cent, as against 15.6 per cent from 1961 to 1962.

Percentage increases by category of vehicles were as follows:

In percentage.

PERIOD	E.C.M.T.		E.E.C.	
	1962-63	1961-62	1962-63	1961-62
Private cars	13.3	16.0	13.7	16.8
Buses and motor coaches	4.6	9.1	4.9	11.7
Lorries.....	7.9	7.8	7.6	10.4

II. Two-wheeled motor vehicles (Table 2 in appendix)

Limiting the comparison to the 11 countries for which data are available for both 1962 and 1963, it will be seen that the decline in the number of vehicles of large cylinder capacity continues at an increasing pace; a fall of 2.7 per cent in 1961-1962 was followed by a further fall of 9.6 per cent in 1962-1963 (for the E.E.C. the corresponding figures are 2.5 and 8.9 per cent).

On the other hand, the number of vehicles of small cylinder capacity began to rise again, at the rate of 6.1 per cent (6.2 per cent for the E.E.C.). The slight reduction observed last year was therefore only temporary.

On the whole, the number of two-wheeled vehicles remains at very much the same level (about 20 million). But the proportion of motorcycles in vehicles as a whole, which was still two-fifths at the end of 1960, fell to two-sixths.

III. Average distance travelled by vehicles each year

The figures it was possible to obtain in this connection are given in Table 3 in appendix. It will once again be observed that these figures are heterogeneous both as regards the results themselves and the methods by which they were obtained.

No general trend appears to be discernible.

It is also possible on the basis of general traffic censuses to calculate the average distance travelled annually on the parts of the network covered by the censuses, i.e. in practice, on the main roads[1].

Table 4 in appendix gives the annual average distances calculated in this way as well as the length of the road networks to which they refer.

Even setting aside the United Kingdom and Spain (where the values shown refer to the network as a whole), and although the method is uniform this time, it will be observed that the results are no less disparate than in Table 3. Furthermore, there would appear to be no correlation between annual average distances (whether those in Table 3 or those in Table 4) and the size of the country, not between annual average distances themselves.

The only positive observation which seems possible when comparing Tables 3 and 4 is that the distance travelled by all vehicles on the main roads varies between a half and a third of the distance travelled annually by each vehicle, which means that a considerable proportion of the traffic (generally more than one-half) does not travel on the main roads.

IV. Road infrastructure

Table 5 in appendix gives a breakdown by categories of the international network. Its total length has not changed but there has been some redistribution between categories. Thus, the length of motorways has increased by 462 km (including 246 km for the E.E.C.).

Motorways now account for 12.2 per cent of the total length of the international network, as

1. If v is the average daily volume for a given category of vehicle recorded at a counting post covering K km of road, the average daily volume on the network covered by the census is:

$$v = \frac{\Sigma\, v\, K}{\Sigma\, K}$$

where Σ K represents the total length of the network covered. For n vehicles, the average annual distance travelled by each vehicle is thus:

$$\frac{366\, \bar{v}\, \Sigma\, K}{n} \quad \text{or} \quad \frac{365\, \bar{v}\, \Sigma\, K}{n}$$

according to whether it is a leap year or not.

against 12 per cent at the end of 1962 (for the E.E.C.: 25 per cent instead of 24 per cent).

Italy takes the lead in this increase with 91 km. Italy is also the country with the longest international road network. But the Federal Republic of Germany still holds the record for motorways in service (48.5 per cent of the international network situated on its territory).

Table 6 in appendix gives a breakdown by categories of the sections of international roads which conform to E.C.E. standards, together with the corresponding percentage of their total length (standardization ratio). This is now 59 per cent for the E.C.M.T. as a whole (as against 55 per cent in 1962) and 67 per cent for the E.E.C. (unchanged).

Table 7 in appendix gives the length of sections whose capacity is still regarded as adequate for the traffic they carry. This would appear to be the case in general for 79 per cent of the international network (75 per cent for the E.E.C.). However, as was already mentioned last year, the proportion is no more than 53 per cent (E.E.C.: 48 per cent) for Category II roads, although 54 per cent (E.E.C.: 43 per cent) are standardized.

It is thus confirmed that, in some countries at least, bringing Category II roads up to standard is not always enough to cope with growing traffic needs.

Two maps represent respectively the existing situation, sections of inadequate capacity being shown in red, and the future network as at present planned, sections already in service with their final characteristics being shown in black.

V. Investment

Taken overall, gross investment in the international network (Table 8) in 1963 was $ 173 million higher than in 1962, i.e. an increase of 31.5 per cent (E.E.C.: 30 per cent). This is higher than the forecast increase of about 20 per cent. The increase is not likely to be maintained in 1964: the estimated rise is hardly more than about 2 per cent over 1963 expenditure (E.E.C.: 8 per cent). Expenditure on the international network, however, accounts for approximately one-third of total expenditure on roadbuilding, whereas last year the proportion was only about one-fifth.

VI. Current development works on the main European arteries

The following is a summary of current development works on the main European highways listed in numerical order.[1]

— *On E 1.* (United Kingdom-Italy) (3,087 km).

In the United Kingdom, a project for a 9.7 km motorway between Otterbourne and Chandlers Ford, to be brought into service in 1966, has been approved.

In France, 72 km of motorway came into service in 1963 and a further 96 km will be put into service in 1964. The whole of the 1,700 kms on French territory is to take the form of a motorway; of this total, 990 km come under the first priority programme.

Of the 1,767 km section of this highway in Italy, 292 km are already in service in the form of motorway and 876 km in all are standardized.

The Salerno-Eboli section was opened to traffic in September 1964.

— *On E 2.* (United Kingdom-Italy) (2,229 km).

In the United Kingdom, a 4.4 km section of motorway with two 11 m-wide carriageways is under construction at Swanley (Kent), and other more local works (bridges, bypasses) will be completed in 1964 or 1965.

In France, an additional 19 km have been brought up to standard, thus increasing the standardized length to 829 km. This highway does not as yet include any motorways on French territory. It is intended that the future network should include 40 km of motorway, which might be raised to 140 km in the event of a Channel Tunnel being built.

In Switzerland, 180 km are standardized out of the highway's 240 km.

In Italy, where 233 km of motorway already exist, work has begun on the Bologna-Canosa (near Bari) motorway.

— *On E 3.* (Portugal-Sweden) (3,549 km).

In Portugal, conversion work has been completed between Rio Major and Batalha (Category I) (46 km).

In Spain, no change is reported this year. The talks with France are still continuing in connection with the building of a bridge over the Bidassoa, between Hendaye and Irun.

In France, 150 km of motorway are under construction, as well as a new suspension bridge at Bordeaux. The Roissy-Senlis motorway (24 km) should be brought into service in 1964.

In Belgium, there is nothing new to report apart from the acceptance of a tender for a new motorway tunnel under the Scheldt at Antwerp. The inter-municipal company which was reported

1. N.B. The length mentioned refers only to the section situated on the territory of E.C.M.T. countries.

as having been set up last year is completing the relevant studies.

In the Netherlands, a first section of motorway is in service south of Eindhoven and work is continuing towards the German frontier. From the Federal Republic's side, it is confirmed that the Venlo-Oberhausen section will in fact come up to motorway standards, although it is not officially classified in that category. Conversion work is continuing, particularly on the Nortorf and Hamburg bypasses, which are in service, and the Flensburg bypass (near the Danish frontier), which will be completed in 1967.

In Denmark, an additional 25 km in Categories I and II have been brought up to standard; a Bill has been passed for the construction of a motorway tunnel under the Limfjord near Aalborg.

— *On E 4.* (Portugal-Finland) (4,899 km).

This is the longest European highway, but there is relatively little work to report.

In Spain, work will begin in 1964 on a 30 km section of motorway between Barcelona and Mataro, which will probably be completed in 1967.

In France, where the route is shared with highway E 1 between Bollène and Valence, motorway bypasses (5 km) are under construction at Montpellier and Grenoble. Talks have also taken place between France and Switzerland in connection with the building of a motorway to Geneva.

In Switzerland, 14 km of motorway are under construction between Oesingen and Rothrist.

In the Federal Republic of Germany, where out of a total length of 826 km this highway already comprises a continuous stretch of 810 km of motorway (including 71 km in common with E 3) (HAFRABA motorway), a new 25 km section of motorway is being built southwest of Frankfurt to link motorways E 4 and E 5.

Contact has been made between Denmark and Sweden with a view to building a bridge over the Oresund as an extension to the "Crow's flight route" between the Federal Republic of Germany and Denmark opened last year.

Finally, Sweden has roadworks in hand to a total of 50 km, including 31 km of motorway; these will be opened to traffic in 1964 or 1965.

— *On E 5.* (United Kingdom-Turkey) (4,200 km, including 129 km in common with E 2 in the United Kingdom), there is little work to report.

In Belgium, a new motorway will shortly be opened to traffic between Liège and the German frontier in the direction of Aachen, together with the Baudouin motorway (Antwerp-Liège), of which it is an extension.

In the Federal Republic of Germany, the section of motorway between Aachen and the Belgian frontier will be opened at the same time, while a 7 km section of the bypass south of Aachen is already open to traffic.

Furthermore, the German authorities have brought two new sections of motorway (43 km) into service between Würzburg and Nuremberg and will bring a further 42 km into service in 1964. Work is in progress on the bypass south of Regensburg and on the bridge over the Lahn near Limburg.

In Austria, only part of the section between Passau (German frontier) and Linz conforms to standard. Three-quarters of the distance between Linz and Vienna is covered by motorway, while the remaining quarter is being converted. This will include a special lane for heavy vehicles on the steeper sections. Between Vienna and the Hungarian frontier, only the surfacing is being improved, the road remaining in Category I.

— *On E. 6.* (Italy-Norway) (2,510 km).

In Italy, the section of motorway between Rome and Florence has been completed. The opening of this section to traffic at the beginning of October 1964 marked the completion of the Milan-Naples Sunshine Motorway (E 2 + E 6 + + E 1), which took eight years to built. Furthermore, contact has been made with Austria, where work on the Brenner motorway is continuing (7 km are in service to the south of Innsbruck). At the other end, Sweden has 21 km of motorway under construction on this highway which will be opened to traffic in 1964 or 1965.

— *On E 7.* (Italy-Poland) (1,244 km).

In Italy, work has begun on the Bologna-Padua motorway, and in Austria, 13 km of motorway have been brought into service to the south of Vienna and improvement works (including a road tunnel under the Massenberg) are in hand on the road (Category I) which at present constitutes highway E 7.

— *On E 8.* (United Kingdom-Poland) (619 km).

Work is in progress in the United Kindgom on 13 km of motorway, while plans for the construction of a further 17 km have been approved.

In the Netherlands, where a motorway already exists between Rotterdam and Utrecht, land is still being acquired with a view to its continuation to the East, while in the Federal Republic of Germany the Osnabrück bypass is at present being converted to four lanes.

— *On E 9.* (Italy-Netherlands) (1,196 km).

In Italy, work is in progress on a second carriageway for the Geneva-Milan-Como motorway.

Switzerland and France have opened negotiations with a view to building a motorway link between Basle and Mulhouse, while work is in progress in France on 15 km to the south of Strasbourg and is continuing of the Metz-Thionville section, where 19 km of motorway were brought into service in 1963.

In Belgium, work to bring the road up to Category II standard has continued between Arlon and Liège, while in the Netherlands, where two-thirds of the route is already covered by motorway, work is continuing from Maastricht to Eindhoven.

— *On E 10.* (France-Netherlands).

There is nothing significant to report in France and Belgium on this important though relatively short link (658 km, including about 120 km in common with E 3), apart from work on the Paris-Bapaume section shared with E 3. Contacts have been made between France and Belgium for the construction of the Combles-Quièvrechain frontier section, while work has begun in Belgium on a small section of motorway shared with E 41 in the neighbourhood of Mons.

In the Netherlands, two-thirds of the motorway planned on this route are already in service and work is continuing actively, particularly in the neighbourhood of Amsterdam (tunnel), Delft (widening of the bypass) and Rotterdam (bridge). Negotiations have been opened with Belgium for the construction of a motorway between Antwerp and Breda.

— *On E 11.* (France-Austria) (788 km).

Few changes compared with last year.

Work has begun on the motorway east of Paris (10 km).

— *On E 12.* (France-Poland) (623 km).

Few changes here too.

Talks habe been held between France and the Federal Republic of Germany on the construction of a motorway between Metz and Innsbruck, whilst in the Federal Republic of Germany a section of the Mannheim-Heilbronn motorway has been opened to traffic and the Nuremberg-Pfreimd motorway is now under construction.

— *On E 13.* (France-Italy) (719 km).

Contacts have been made between these two countries in connection with the building of a road tunnel at Fréjus. In France, deviation works are in progress at La Tour de Pin and Modane.

— *On E 14.* (Italy-Austria) (560 km).

In Austria, the Linz-Salzburg motorway section, the construction of which was notified in the preceding report, is now open to traffic. However, the Mondsee-Regau section (41 km) still has only one carriageway.

— *On E 15.* (The Federal Republic of Germany-Hungary)

There is nothing to report on this road, which includes only 46 km on Federal Republic territory, nor on *E 16* (Hungary-Poland), which does not cross any E.C.M.T. Member country.

— *On E 17.* (France-Austria) (798 km).

As will be recalled, this highway does not at present include any motorway section, but standardization work on the existing roads is continuing in France and Austria. Switzerland has begun work on 20 km of motorway between. Oftringen and Lenzburg.

— *On E 18.* (Norway-Sweden) (1,063 km).

Sweden has 10 km of motorway under construction between Stockholm and Enköping, which should be completed in 1968.

— *Highways E 19 and E 20* concern only one E.C.M.T. country (Greece) and do not include any motorways.

— *On E 21.* (489 km).

With its branches E 21A (80 km) and E 21B (125 km), this constitutes a three-branched link between Italy, Switzerland and France; mention should be made on the Swiss side (E 21A) of the bringing into service at the beginning of 1964 of the tunnel under the Great Saint-Bernard, which is thus the first transalpine road tunnel; on the French side (E 21B), work is nearing completion on the Mont Blanc Tunnel (which has now been bored) and its access roads.

Thus, the 1950 Geneva Declaration on the construction of main international highways is beginning to bear fruit. Thanks to the general good will, a real international network is beginning to take shape. Progress is slow but continuous.

Chapter IV. WATERWAYS

I. Traffic development

1. *Countries as a whole*

For the eight E.C.M.T. countries in which inland waterways transport is of some importance, Table 9 gives an idea of the volume of traffic for the years 1960 to 1963, with 1955 as the year of reference.

TONNAGE CARRIED

1.000 *tons.*

	INTERNAL TRAFFIC (8 COUNTRIES)	INTERNATIONAL TRAFFIC (NOT INDUDING STATIC)	TOTAL
1960	223,570	105,080	328,650
1961	233,348	105,975	339,323
1962	236,745	104,613	341,358
1963	227,260	107,055	334,315

This table shows that the increase from 1960 to 1961 did not continue. The drop in 1963 may be attributed to the severe winter but with this in mind, it should nevertheless be noted that from 1960-1963 total traffic increased only by 5 ½ million tons.

The last few years should be considered in relation to a longer period. From 1955 up to and including 1962[1], an increase of about 33 per cent may be noted in the tonnage carried and ton-kilometres[2].

During this same period, the increase in the Gross National Product of all the countries considered was about 43 per cent. Comparison of these two percentage increases gives an average elasticity ranging between 0.7 and 0.8 i.e. less than unity.

1. Gross National Product, at 1958 prices and exchange rates. *Source:* O.E.C.D. National Accounts Divisions. As the Yugoslav definition of G.N.P. differs from that used by other countries, Yugoslavia was not included in the calculation. G.N.P. figures for 1963 were not yet available.

2.

	1955	1962	INCREASE (PERCENTAGE)
G.N.P. ($ million)	155,647	222,438	+43 %
Tonnage carried ('000 tons)	253,496	336,487	+32.7%
Ton-kilometres ('000 million) (excluding Italy)	57.9	77.7	+31.1%

2. *Remarks on traffic in the various countries.*

The Federal Republic of Germany registered a marked decline in the tonnage of national traffic owing to the severe winter, particularly in the case of bulk goods such as coal, ores, wheat and fertilizers. Solid and liquid fuels were carried by rail and by road during the first quarter, but the replenishment and building up of stocks, as a precautionary measure, apparently resulted in heavier liquid fuel traffic with the result that the initial decline changed into a slight increase. Outgoing tonnage remained unchanged compared with 1962 while incoming tonnage was slightly up; total traffic therefore showed a decrease. In consequence, ton-kilometres dropped less than total tonnage, as reflected by an increase in the length of the average haul. Ton-kilometres have been dropping since 1960.

In *the Netherlands*, the severe winter likewise checked the development of traffic. International traffic decreased in both directions, and national traffic still more. As a result ton-kilometres showed a decline while the average haul was slightly longer. Hydrocarbon traffic increased less than usual in 1963 but was the only category of traffic not to show a decrease. Although traffic was virtually at a standstill during the first quarter, there was hardly any switch-over in favour of other forms of transport. However, the extremely long period throughout the rest of the year could not make up for the poor start.

Table 10 (Rhine traffic at the German-Netherlands frontier) shows that the decline in downstream traffic is continuing although the latest information suggests a change for the better (see likewise Graph 8). The decrease was particularly marked in downstream coal traffic, probably due to the severe winter.

As the increase in upstream traffic was more marked than the decline in downstream traffic, total tonnage increased slightly and the decline noted since 1960 seems less marked. Upstream traffic was helped by the increased traffic in coal and building materials.

The incidence of unfavourable weather conditions (low water levels in the Autumn of 1962 and the severe winter of 1962-1963) is clearly reflected in Table 11 and Graph 8. Despite the extremely satisfactory activity in both directions from Spring onwards, the unfavourable effects of the first quarter of the year could not be entirely offset with regard to downstream traffic.

In *Belgium*, there was a slight increase in incoming and outgoing goods traffic. On the other hand national traffic dropped considerably, with the result that the total tonnage was slightly lower than in 1962. The downward tendency of the average length of haul persists.

France appears to have suffered less than the other countries from the unfavourable weather conditions and waterways transport continued to increase as in recent years. This trend seems to be accompanied by a shorter average haul and, consequently, in fewer ton-kilometres.

In *Autsria*, the severe winter caused a reduction in national traffic and in outgoing tonnage. The incoming tonnage, on the other hand, rose considerably with the result that total tonnage and ton-kilometres were higher than in 1962. The improved navigability of the Danube has probably helped matters. Inland navigation is expected to develop satisfactorily in 1964 although the opening up of the Karlsruhe-Ingolstadt pipeline may have an unfavourable structural effect.

Waterways transport increased in *Switzerland* and *Yugoslavia* in 1963. In the case of the latter, the high level of the average haul is particularly outstanding, almost twice the length of the usual in most of the other countries.

The density of traffic on the Moselle cannot yet be estimated for lack of statistics for a long enough period. It is very much to be hoped that Luxembourg will be able to provide data on trans-shipment in its territory when the Mertert port comes into services in 1965.

II. The development of the fleet

The modernisation of the fleet observed in recent years continued in 1963. This was reflected in all countries by an increase in the number, total tonnage and average capacity of self-propelled craft, the replacement of dumb barges and the growing proportion of the pusher fleet.

Comparison of Tables 13 and 14 shows that the average capacity of new boats commissioned in 1963 was in almost every case well above the average for the fleet as a whole.

To give an idea of pay-load capacity in general and its development, a comparison has been made to show the development in tons loaded.

The degree of utilisation has been calculated by dividing the tonnage loaded by the cargo capacity; this, compared with the situation in 1955, gives a figure called the index of utilisation. It is reassuring to note that the total pay-load capacity in the last three years has increased but little and that the index of utilisation is not deteriorating, although it might well have improved still more had it not been for particularly unfavourable conditions in 1963.

	CARGO CAPACITY 1,000 TONS	IDEM INDICES	TONNAGE LOADED[1] 1,000 TONS	IDEM INDICES	INDEX OF UTILISATION
	1	2	3	4	5
1955	15,318	100	253,496	100	100
1960	17,234	113	328,650	130	146
1961	17,580	115	339,323	134	154
1962	17,997	117	341,358	135	158
1963	18,376	120	334,315	132	158

1. International traffic excluding Italy.

It is evident that the modernisation of the fleet and trans-shipment arrangements results in a higher cargo capacity (exactly now much is not known) than that indicated by the number of tons. However, the steady index is a favourable sign.

The pusher fleet on the Rhine can only be compared between 1st July, 1963 and 1st January, 1964.

The following table, compiled by the Central Commission for Navigation of the Rhine, shows a further slight increase in the pusher fleet. It still represents about 2 per cent of the total cargo capacity of the waterways fleets of States bordering on the Rhine.

No country has supplied details of its pusher fleet as the corresponding tables were optional. It is to be hoped that more statistics will be available in this respect next year.

III. Progress report on studies and results concerning waterways of interest to Europe as a whole

[*Resolution No* 1: *inland waterways transport*]

1. *Improvement of the Dunkirk-Scheldt link and international extensions*

The adaptation of the Dunkirk-Denain link to larger vessels continued according to schedule in French territory. The Pont Malin lock came into service in early 1964. At Courchelette, the double-lock chamber was completed by the end of 1963. The whole Dunkirk Denain section will probably

be opened by 1967 and the use of pushed convoys will then become possible. In Belgium, further delay is reported in straightening the Upper Scheldt at Audenaerde but the Tournai stretch has been completed.

The opening of the Ghent circular canal remains scheduled for the end of 1966.

For the section lying on either side of the frontier, the only new development is the forming of a Franco-Belgian Commission to study the different solutions proposed. The commitments of both States will be defined in a Convention which will include the setting up of an international commission responsible for its application.

As the work of the study commission is still under way, it has not yet been possible to prepare for the E.C.M.T. the note announced in the last report on the main points of the plan.

PUSHER FLEET IN SERVICE
ON THE RHINE AT 1ST JANUARY, 1964

	NUMBER	TOTAL CAPACITY IN TONS	TOTAL HORSEPOWER
Pushers	46	—	51,320
Self-propelled barges used as pushers	24	25,666	18,040
Pushed barges (purpose built)	183	280,438	2,000
Converted barges similar to self-propelled barges	22	25,413	1,255
Other barges	13	20,000	—
Totals	288[1]	351,517[1]	72,615[1]

1. In service at 1st July, 1963:
272 (boats) 342,400 (tons) 68,300 (HP)

2. *Improvement of the Scheldt-Rhine link*

The report for 1962 outlined the technical features of the project and its main civil engineering works which will allow the waterway to take Rhine-type pushed convoys.

The protocol concerning the new liaison, which was signed on 13th May, 1963, is now before Parliament in both countries.

3. *Improvement of the Meuse and its international connection*

In France, the preliminary studies for adapting the Meuse to larger vessels and linking it to the Moselle at Toul will be completed in 1964.

The adaptation of the Meuse below Liège to class V (2,000-ton) standards has begun and borings are being made for the Lixhe dam. There is nothing new to report with regard to the modernisation of the Meuse above Ben-Ahin, i.e. the reduction of the number of locks and the building of locks 12 m. wide and 185 m. long. Studies are actively proceeding.

In the Netherlands, work is continuing on increasing the capacity of the Juliana canal and of the Meuse.

Construction started this year on two new locks besides the two existing locks at Sambeek and Belfeld, both of which will remain in service.

4. *Meuse-Rhine link, with connection to Aachen*

The technical report has already been given a first scrutiny by the Group of Experts.

An economic study drafted by the University of Münster, has been made available to members of the *ad hoc* Working Party.

The latter might take this study as a basis for the economic section which is to complete the technical report already completed.

5. *Canalisation of the Moselle*

The Koblenz-Thionville section was opened to navigation on 1st June, 1964. The inauguration took place in the presence of the Heads of State of the three countries on 26th May, 1964, and marked the end of a seven-year period for the preparation and building of 270 km of waterway, the result of close international co-operation.

All relevant information will be presented henceforth under the heading "*canalisation of the Moselle above Thionville*". Navigation between Thionville and Hagondange became possible on 1st June, 1964.

The Hagondange-Metz section will be opened to larger vessels in 1965; work is progressing normally.

Work on the adaptation of the Metz-Frouard section, part of the IVth Plan, will enter the active phase in 1964.

6. *Deepening of the Rhine between Mannheim and Saint-Goar*

The surveys and preliminary work for the improvement of the Rhine between Mannheim and Saint-Goar have continued. Reference may be made in particular to the clearing of certain

rocky parts in the context of routine dredging on the Oberwesel-Saint-Goar stretch. The necessary funds have been granted, a limited amount to begin with, for the improvement of this stretch in 1964. The question of adapting the Rhine between Strasbourg and Lauterbourg was discussed at several Franco-German meetings in 1963. Economic and hydrological studies are continuing.

Research is likewise being carried out for the Lauterbourg-Mannheim section with a view to water level control and the elimination of certain dangerous points for navigation.

It is proposed that in future this project should be defined as follows: "*Improvement of navigation conditions on the Rhine between Strasbourg and Saint-Goar*".

7. *Rhône-Rhine link*

Three possible links are being studied in France: Rhône-Rhine via Besançon, Rhône-Rhine via the Moselle and the link via the Meuse. The preliminary technical studies should be completed before the end of 1964. Economic surveys are likewise being made in order to estimate the utility of including all or part of these links in the Vth Plan.

Switzerland is conducting technical and economic studies of the navigation on the Rhine, the Aar and the Jura lakes.

8. *Development of the upper Rhine for larger vessels*

The report prepared by the German-Swiss Commission has been published. The total cost is estimated at DM. 330 million. So far, however, no agreement has yet been come to between the Federal Republic and Switzerland concerning the whole project.

It is proposed that in future this projects should be defined as: "*Development of the Rhine between Rheinfelden and Lake Constance*".

9. *Rhine-Main-Danube link*

As the canalisation of the Main between its mouth and Bamberg has now been completed, work has been transferred to the Bamberg-Nürnberg section.

In connection with the water-level control of the Danube, the channel in the Hilgartsberger Kachlet has been completed. It will be recalled that the latter is wide enough to take two boats abreast and has a minimum 2-m. draught.

Work on water level control (minimum 2-m. draught) has likewise continued in Austria. The objective has now been attained between Jochenstein (frontier) and Aschach with the completion of the hydro-electric dam at Aschach.

Water level control work was started in 1963 below Vienna in order to guarantee a minimum 2 m. 50 draught.

10. *Development of the Elbe, with link from Hamburg to the inland waterways network of Western Europe*

With regard to the North-South canal, financial negotiations between the Ministry of Transport of the Federal Republic and the five Länder concerned are still proceeding, but, the preliminary technical work has not been interrupted.

In the case of the Mittelland Kanal, the preparatory work is sufficiently advanced for work to start in 1964 on the western section of the canal between Bergeshövede and Minden.

It is proposed that this project should be defined as: "*Development of the Elbe, with link from Hamburg to the waterways network of Western Europe, including the Mittelland Kanal*". This project likewise includes the adaptation of the latter from Class III to Class IV.

Developments concerning the Dortmund-Ems-Kanal and the Wesel-Datteln-Kanal are mentioned in this context because of their relationship with project No 10.

On the former canal, the last restrictions on the navigation of vessels of 1,350 tons were removed on 1st January, 1963.

On the second canal the aim is to increase capacity by doubling the locks and enlarging the cross section. The doubling of the Friedrichsfeld lock and the extension of the lay-by area was completed in 1963. Of the remaining five locks to be duplicated, two will be started in 1964.

11. *Oder-Danube link*

Discussion held over.

12. *Link between Lake Maggiore and Venice*

The Lake Maggiore-Adriatic link concerns both Switzerland and Italy. The attitude of the Swiss authorities was indicated in the 10th Report [point 151 (*f*)]. With regard to work on Italian territory, the position is as follows:

The Po is navigable up to Cremona and it is planned to extend this stretch as far as Milan.

i) Work on the double lock at Cremona, to link the internal harbour with the river Po, is three quarters finished. The same applies to the water level control work on the Po between Cremona and Mincio.

The permanent bridge replacing the pontoon at Borgoforte has been opened to traffic. The contracts for building the other six permanent bridges have not yet been awarded.

ii) The canal planned between Ticino-Milan North Mincio is being studied; expenditure is estimated at 150,000 million Lire.

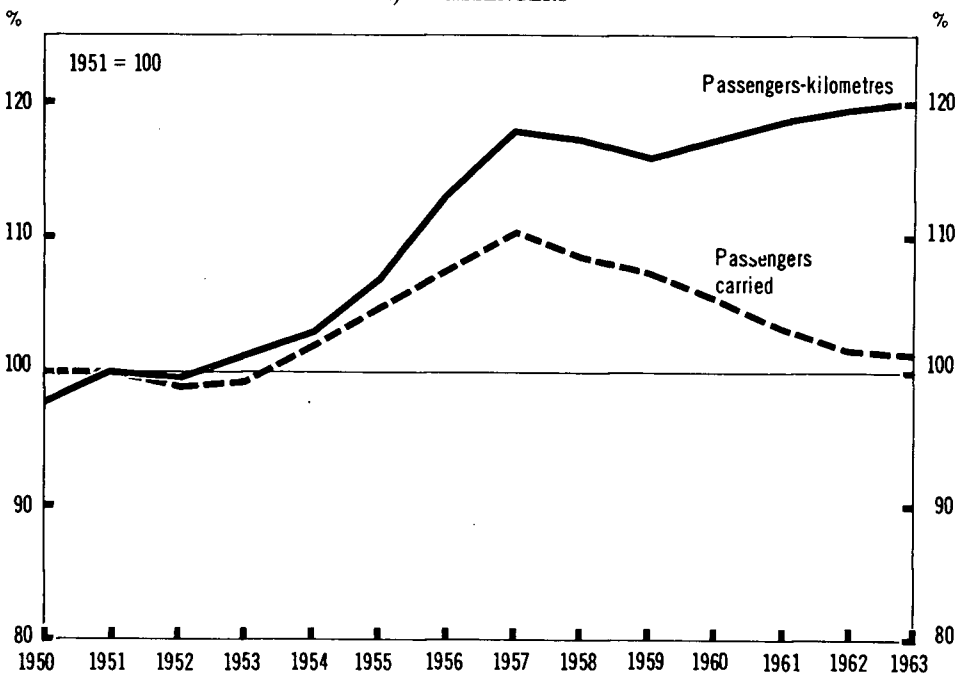
iii) Work is progressing on the new Venice-Padua canal to take shipping up to 1,350 tons.

It is proposed that this project should be defined as: "*Link between Lake Maggiore and the Adriatic*".

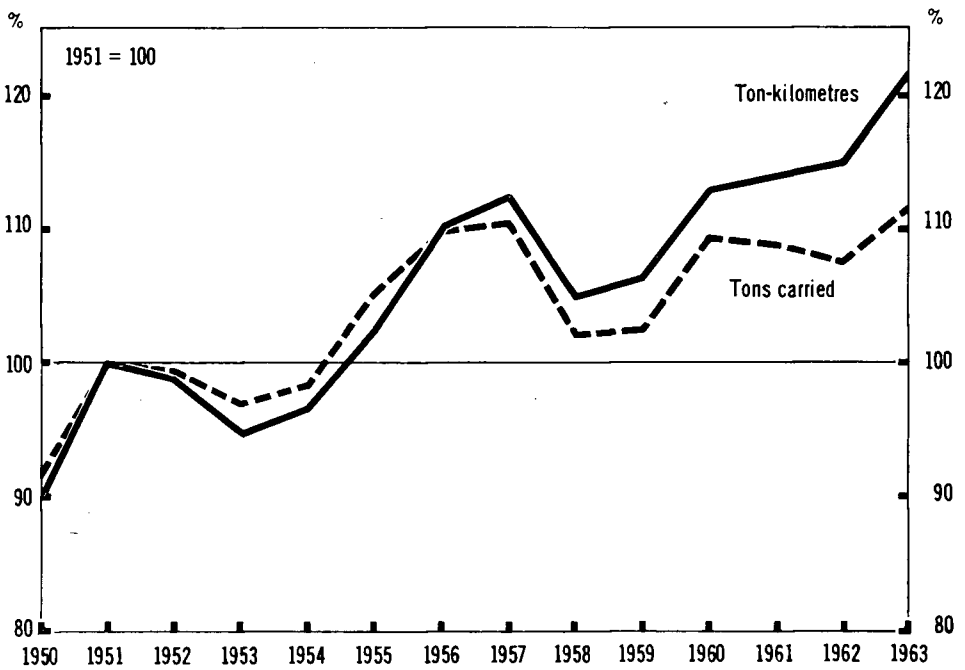
If the Council of Ministers agrees to the proposed amendments to the list of 12 projects for waterways of interest to Europe, it is suggested that it should adopt a draft Resolution amending Resolution No 1 (Inland Waterways) adopted in October 1953.

Graph 1. TREND OF RAILWAY TRAFFIC

a) PASSENGERS

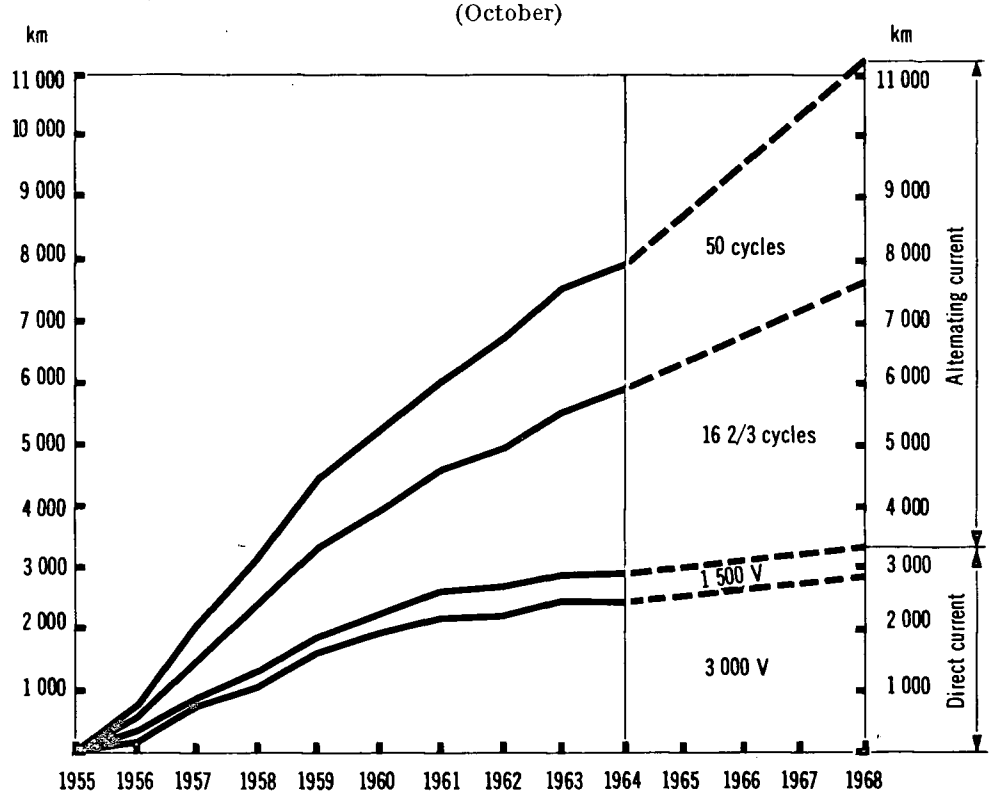


b) GOODS



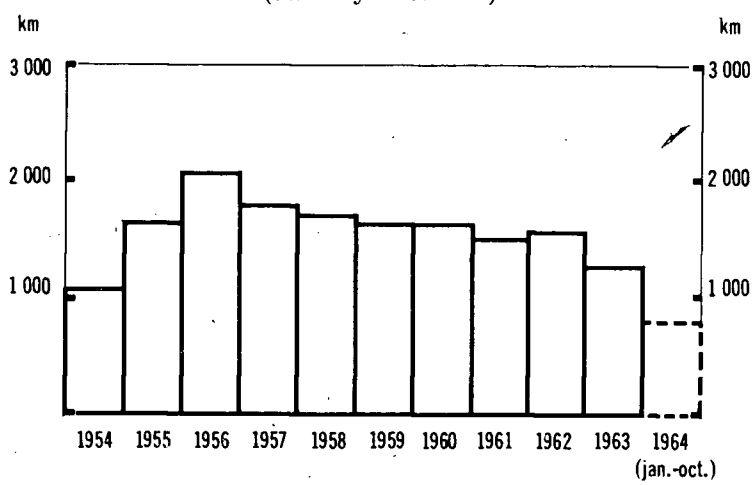
Graph 2. TREND OF ELECTRIFICATION

a) GROWTH* OF ELECTRIFICATION OF EUROPEAN MAIN LINES
(October)



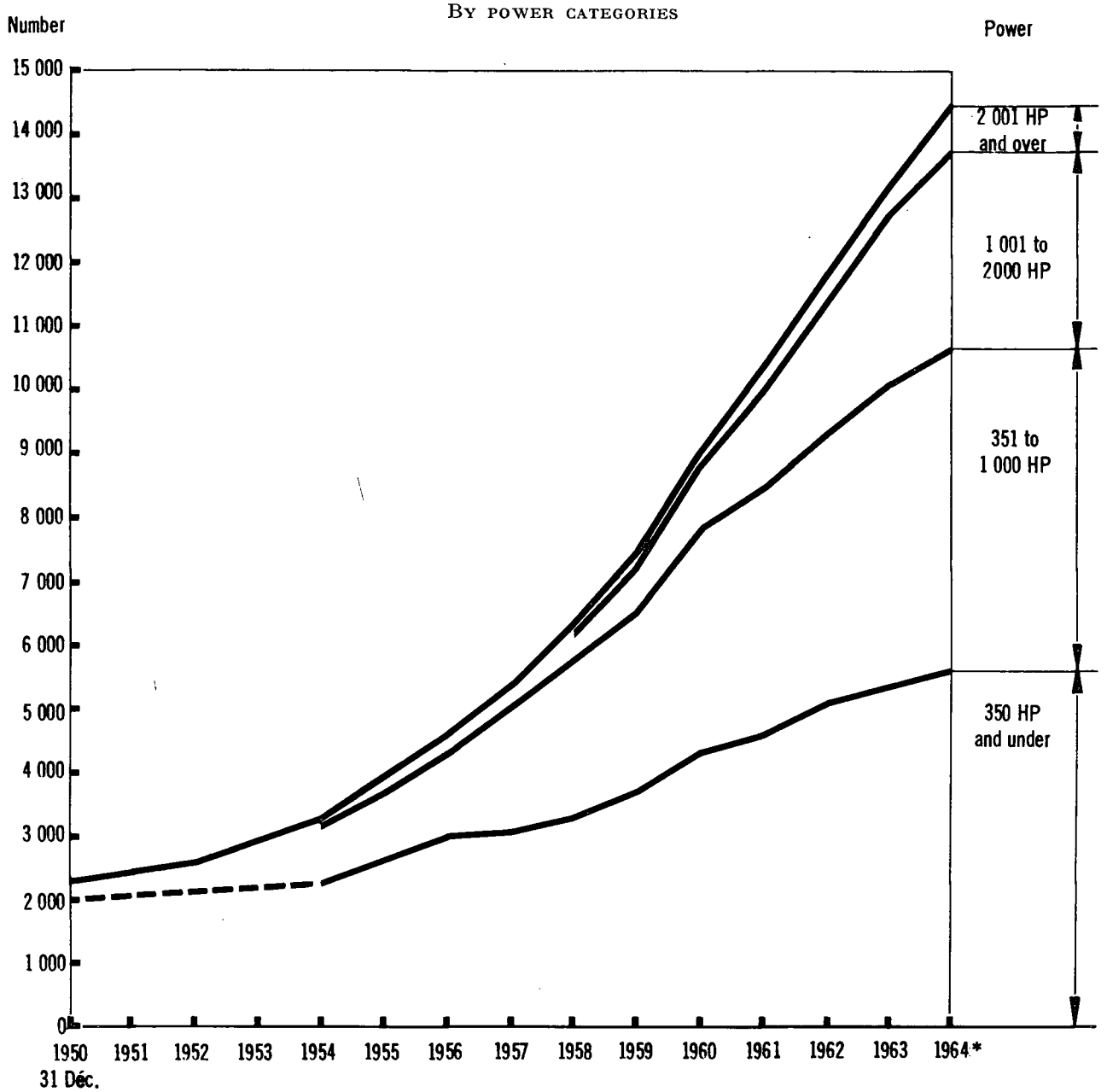
* Results of programmes for conversion of types of current are not included.

b) ANNUAL GROWTH OF ALL ELECTRIFIED LINES
(January-December)



Graph 3. TREND OF NUMBERS OF DIESEL LOCOMOTIVES

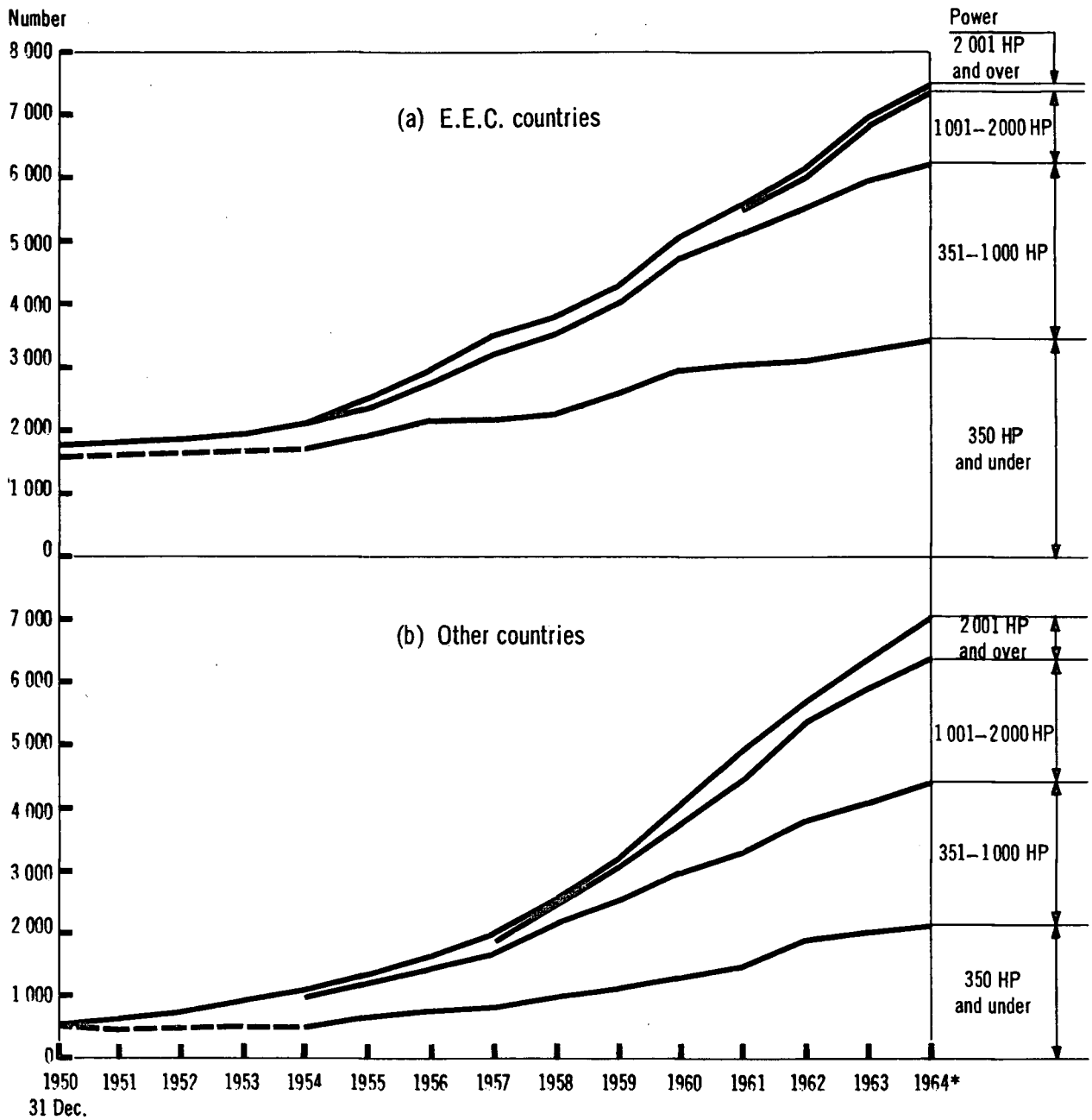
BY POWER CATEGORIES



* Estimates.

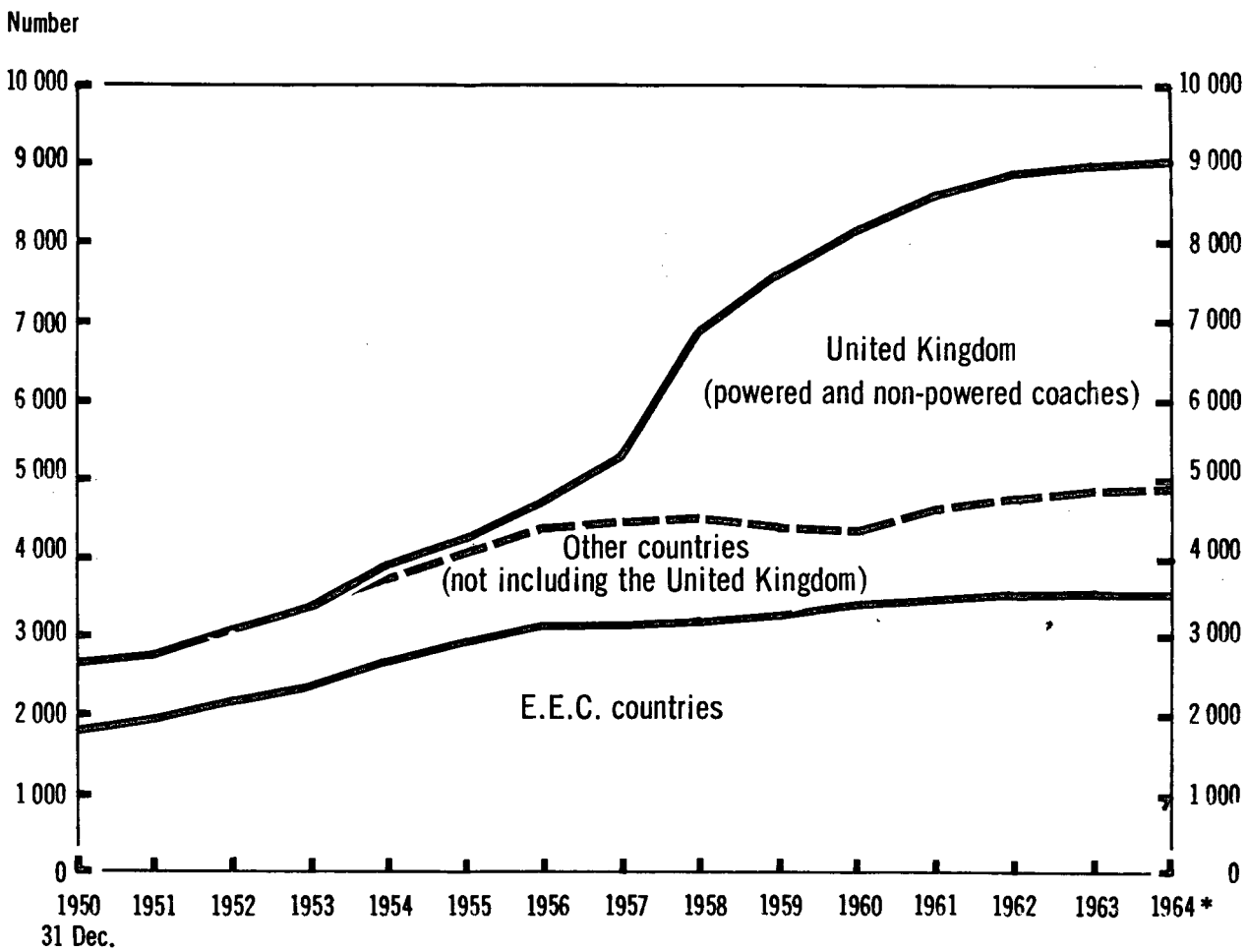
Graph 4. TREND OF NUMBERS OF DIESEL LOCOMOTIVES

IN E.E.C. COUNTRIES AND IN OTHERS



* Estimates.

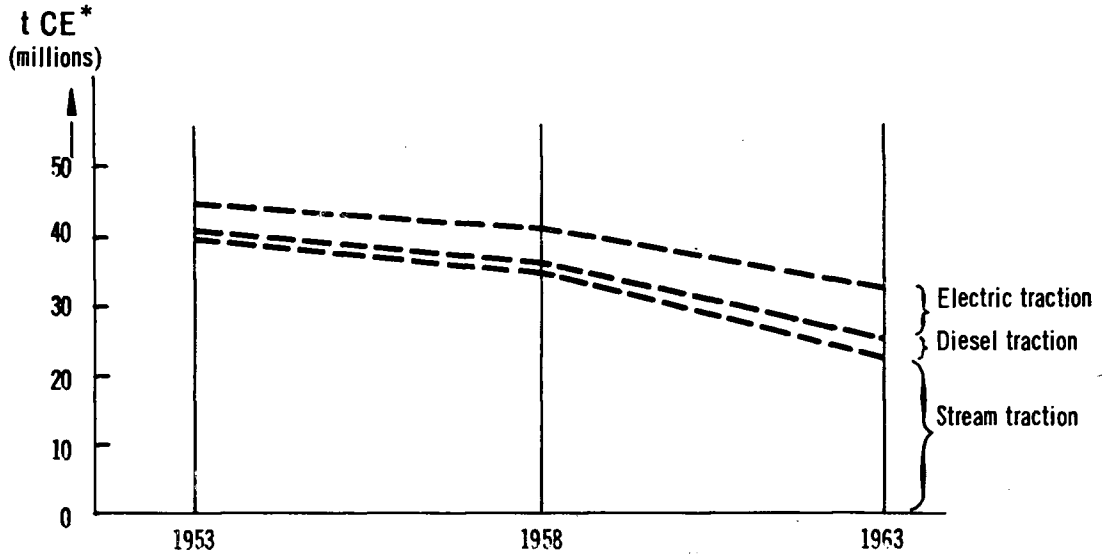
Graph 5. TREND OF NUMBER OF DIESEL RAILCARS



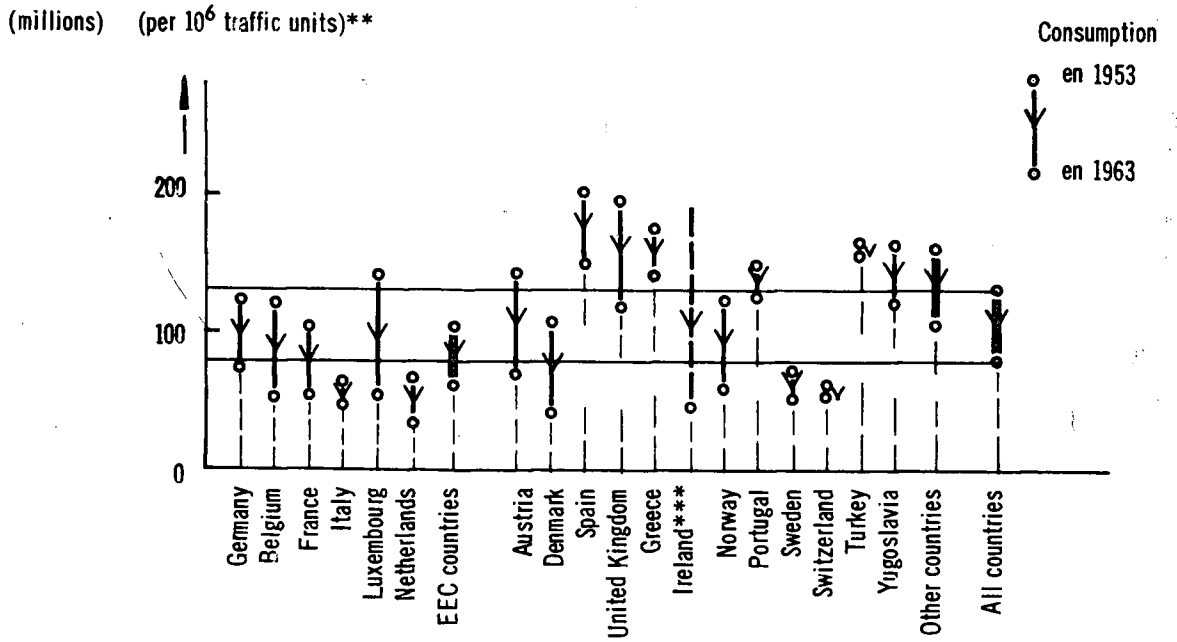
* Estimates.

Graph 6. TREND OF ENERGY CONSUMPTION FOR TRAIN TRACTION
1953-1963

a) CONSUMPTION FOR ALL COUNTRIES

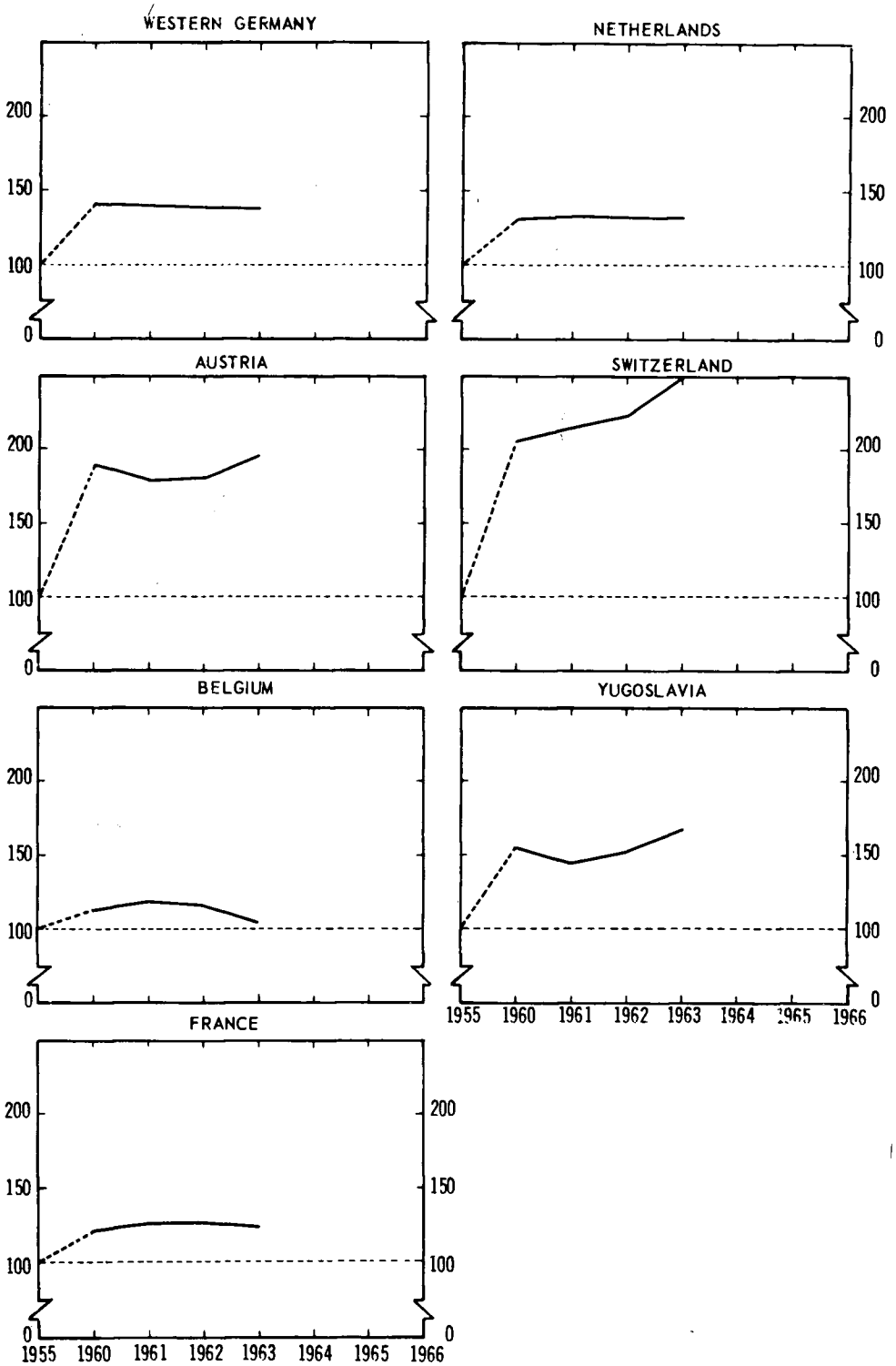


b) SPECIFIC CONSUMPTION



* Coal equivalent.
** Ton-kilometres + passenger-kilometres.
*** Number for 1953 is not available.

Graph 7. DEVELOPMENT OF TON-KILOMETRES IN INDEX FIGURES



Graph 8. TRANSPORT ON THE RHINE, AT GERMAN-DUTCH BORDER

SUCCESSIVE PERIOD OF 12 MONTHS IN 10^6 TONS

TABLE I. TREND OF MOTOR VEHICLE NUMBERS

FIGURES IN BRACKETS INDICATE PERCENTAGES

E.E.C. Countries are in italics

COUNTRY	PRIVATE CARS		BUSES AND MOTORCOACHES		LORRIES		TOTAL
YEAR 1961							
1. *Germany* (F.R.)	5,592,461	(87.4)	34,914	(0.6)	769,230	(12.0)	6,396,605
2. Austria	474,538	(66.2)	5,043	(0.8)	236,421	(33.0)	716,002
3. *Belgium*	865,000	(81.9)	6,000	(0.6)	184,000	(17.4)	1,055,000
4. Denmark	469,592	(71.3)	3,512	(0.6)	185,206	(28.1)	658,310
5. Spain	358,926	(65.7)	13,024	(2.4)	174,328	(31.9)	546,278
6. *France*	6,158,210	(78.0)	38,388	(0.5)	1,684,394	(21.5)	7,880,992
7. Greece	48,500	(51.4)	6,800	(7.2)	39,000	(41.4)	94,300
8. *Italy*	2,443,873	(81.8)	18,423	(0.6)	522,935	(17.6)	2,985,231
9. *Luxembourg*	41,581	(81.3)	383	(0.7)	9,233	(18.0)	51,197
10. Norway	276,077	(70.2)	5,578	(1.4)	111,875	(28.4)	393,530
11. *Netherlands*	615,906	(77.1)	9,158	(1.2)	173,317	(21.7)	798,381
12. Portugal	170,513	(76.9)	3,614	(1.6)	47,736	(21.5)	221,863
13. United Kingdom	5,991,800	(79.8)	76,200	(1.0)	1,457,300	(19.2)	7,525,300
14. Sweden	1,193,913	(90.3)	8,250	(0.6)	121,858	(9.1)	1,324,021
15. Switzerland	579,000	(89.4)	3,275	(0.5)	65,300	(10.1)	647,575
16. Turkey	45,767	(40.4)	10,981	(9.6)	57,460	(50.0)	114,208
17. Yugoslavia	78,823	(44.4)	5,681	(3.9)	60,501	(41.7)	145,005
Total E.C.M.T.	25,404,480	(80.5)	249,224	(0.8)	5,900,094	(18.7)	31,553,798
Total E.E.C.	15,707,031	(82.0)	107,266	(0.6)	3,343,109	(17.4)	19,167,406
YEAR 1962							
1. *Germany* (F.R.)	6,562,530	(88.6)	35,669	(0.5)	805,317	(10.9)	7,403,516
2. Austria	556,757	(67.8)	5,226	(0.6)	259,288	(31.6)	821,271
3. *Belgium*	975,000	(82.7)	6,275	(0.5)	197,500	(16.8)	1,178,775
4. Denmark	547,841	(72.8)	3,563	(0.5)	201,602	(26.8)	753,006
5. Spain	440,611	(66.7)	14,472	(2.2)	205,363	(31.1)	660,446
6. *France*	7,031,861	(79.7)	40,225	(0.5)	1,749,441	(19.8)	8,821,527
7. Greece							
8. *Italy*	3,006,839	(79.6)	27,894	(0.7)	742,213	(19.7)	3,776,946
9. *Luxembourg*	45,502	(82.4)	393	(0.7)	9,317	(16.9)	55,212
10. Norway	321,767	(72.4)	5,834	(1.3)	116,546	(26.3)	444,147
11. *Netherlands*	730,051	(78.9)	9,322	(1.0)	185,534	(20.1)	924,907
12. Portugal	193,259	(77.4)	3,926	(1.6)	52,369	(21.0)	249,554
13. United Kingdom	6,783,000	(81.4)	79,000	(1.0)	1,470,000	(17.7)	8,332,000
14. Sweden	1,424,000	(91.1)	9,200	(0.6)	128,600	(8.3)	1,561,800
15. Switzerland	655,000	(89.7)	3,400	(0.5)	71,700	(9.8)	730,100
16. Turkey	52,381	(40.0)	13,956	(10.6)	64,706	(49.4)	131,043
17. Yugoslavia	99,130	(60.7)	6,239	(3.80)	58,132	(35.6)	163,501
Total E.C.M.T.	29,425,529	(81.7)	264,594	(0.7)	6,317,628	(17.6)	36,007,751
Total E.E.C.	18,351,783	(82.8)	119,778	(0.5)	3,689,322	(16.7)	22,160,883
YEAR 1963							
1. *Germany* (F.R.)	7,513,652	(89.6)	36,015	(0.4)	846,964	(10.0)	8,396,631
2. Austria	627,582	(69.0)	5,476	(0.6)	279,063	(30.4)	912,121
3. *Belgium*	1,043,301	(82.5)	6,800	(0.5)	210,000	(17.0)	1,260,101
4. Denmark	605,486	(73.6)	3,680	(0.5)	213,232	(25.9)	822,398
5. Spain	589,700	(69.3)	16,322	(1.9)	244,599	(28.8)	850,621
6. *France*	7,531,000	(80.0)	42,522	(0.5)	1,858,348	(19.5)	9,431,870
7. Greece	61,510	(53.2)	7,645	(6.6)	46,490	(40.2)	115,645
8. *Italy*	3,864,150	(81.6)	30,406	(0.6)	846,955	(18.0)	4,741,511
9. *Luxembourg*	49,689	(88.0)	405	(0.7)	9,399	(11.3)	59,493
10. Norway	364,193	(74.4)	5,930	(1.2)	119,439	(24.4)	489,562
11. *Netherlands*	866,900	(80.7)	9,500	(0.9)	197,500	(18.4)	1,073,900
12. Portugal	212,139	(77.3)	4,626	(1.7)	57,820	(21.0)	274,585
13. United Kingdom	7,602,000	(82.0)	81,000	(0.9)	1,585,000	(17.1)	9,268,000
14. Sweden	1,556,000	(91.7)	9,700	(0.6)	131,000	(7.7)	1,696,700
15. Switzerland	748,000	(89.5)	3,561	(0.4)	84,351	(10.1)	835,912
16. Turkey							
17. Yugoslavia	112,534	(61.4)	6,634	(3.5)	64,499	(35.0)	183,667
Total E.C.M.T.	33,347,836	(22.6)	270,222	(0.6)	6,794,659	(16.8)	40,412,717
Total E.E.C.	20,868,692	(83.6)	125,648	(0.5)	3,969,166	(15.9)	24,963,506
Ireland	229,125		1,514		45,209		275,848

TABLE 2. TWO-WHEELED MOTOR VEHICLES
SITUATION AT END 1963
E.E.C. countries are in italics

COUNTRY	CYLINDER CAPACITY NOT EXCEEDING 50 CC[1]	CYLINDER CAPACITY OVER 50 CC[1]
1. *Germany* (F.R.)	1,528,943	1,033,038
2. Austria	459,467	248,868
3. *Belgium*	445,998	185,000[2]
4. Denmark	716	103,494
5. Spain	340,000	801,812
6. *France*	6,000,000	850,000
7. Greece		39,654
8. *Italy*	1,300,000	2,891,000
9. *Luxembourg*	16,500[2]	9,226
10. Norway	119,469	72,261
11. *Netherlands*	1,300,000[2]	155,600
12. Portugal		27,840
13. United Kingdom	435,000	1,203,000
14. Sweden	750,000[2]	107,000
15. Switzerland	104,000	115,105
16. Turkey		
17. Yugoslavia[3]		
E.C.M.T.	12,800,093	7,842,898
E.E.C.	10,591,441	5,123,864

1. 50 kg unladen weight respectively for Denmark.
2. Estimate.
3. Yugoslavia: 97,977 motorcycles, categories not indicated.

TABLE 3. AVERAGE DISTANCE COVERED BY VEHICLES EACH YEAR (KM)

COUNTRY	YEAR	PRIVATE CARS	BUSES	LORRIES	AVERAGE FOR ALL VEHICLES	METHOD USED
1. Germany (F.R.)	1962	18,600	45,500	28,200	19,733	Direct enquiries to users.
2. Austria						
3. Belgium	1952				13,531	Motor-spirit consumption.
	1954				13,187	Motor-spirit consumption.
	1956				13,752	Motor-spirit consumption.
4. Denmark	1961	14,700—	58,800+	19,800+	16,370	Motor-spirit consumption and traffic
	1962	15,500+	57,100+	20,500+	17,035	counts.
5. Spain	1962	12,150	25,600	41,800	21,664	Traffic counts.
6. France	1960	9,300=	30,000=	12,000=	10,000	Motor-spirit consumption.
	1963	9,500=	30,000=	12,000=	10,084	Motor-spirit consumption.
7. Greece						
8. Italy	1962	12,000	45,000	36,180	16,995	Direct enquiries to users.
	1963	15,000	42,000	35,000	18,694	Direct enquiries to users at home or on the road.
9. Luxembourg						
10. Norway	1962	11,000	33,600+			Direct enquiries to users.
	1963	11,500+	37,200+	38,300	18,349	Direct enquiries to users.
11. Netherlands	1962	18,700—	47,000=			Direct enquiries to users.
	1963	18,400—	47,000=	18,500=	18,500	Direct enquiries to users.
12. Portugal						
13. United Kingdom	1961	12,389=	50,683=	20,756+	14,396	Traffic counts.
	1963	11,585	48,270	20,756+	13,474	Traffic counts.
14. Sweden	1958		43,000			
	1960		43,000=	23,800=		
	1962	15,000	43,000=	23,800=	15,889	
	1963	15,000=	43,000=	23,800=	15,839	
15. Switzerland						
16. Turkey	1961	24,400+	44,300+	29,900+	29,080	Traffic counts.
17. Yugoslavia	1963		46,117+	35,065		Transport statistics.

TABLE 4. AVERAGE DISTANCE TRAVELLED BY VEHICLES EACH YEAR ON THE NETWORKS OR PARTS OF NETWORKS COVERED BY TRAFFIC SURVEYS

COUNTRY	YEAR	LENGTH OF THE NETWORK COVERED (KM)	AVERAGE DISTANCE TRAVELLED BY VEHICLES EACH YEAR			KM PER ANNUM ALL VEHICLES
			PRIVATE CARS	BUSES	LORRIES	
1. Germany (F.R.)	1960	24,931	5,674	21,057	13,337	6,757
	1963	24,931	4,459	19,425	12,739	5,358
2. Austria	1960	1,811	4,902	2,917		4,212
3. Belgium	1955	5,033	6,646	21,035	7,187	6,873
	1960	5,543	6,558	22,873	10,016	7,274
4. Denmark						
5. Spain	1960	54,469	12,150	25,600	41,800	21,664
6. France	1960	80,786	6,324	16,016	4,456	5,963
7. Greece						
8. Italy	1960	6,522	5,435	10,794	4,860	5,376
9. Luxembourg						
10. Norway						
11. Netherlands	1960	3,124	8,365	15,646	7,384	8,236
12. Portugal						
13. United Kingdom	1960	152,364	12,201	51,810	21,401	14,470
	1963	152,364	11,472	49,301	21,268	13,477
14. Sweden	1958	93,000				
15. Switzerland	1960	5,000	8,738	15,801	11,241	9,052
16. Turkey						
17. Yugoslavia						

TABLE 5. PRESENT INTERNATIONAL NETWORK

SITUATION AT END 1963

COUNTRY	LENGTH IN EACH CATEGORY (KM)			TOTAL LENGTH (KM)
	A (MOTORWAY)	II (MORE THAN 2 LANES)	I (2 LANES)	
1. *Germany* (F.R.)	2,816	119	2,857	5,792
2. Austria	288	86	1,437	1,811
3. *Belgium*	196	546	348	1,090
4. Denmark	69	348	469	886
5. Spain	39	376	5,517	5,932[1]
6. *France*	281	1,971	3,691	5,943
7. Greece	—	22	3,029	3,051
8. *Italy*	1,418	1,040	4,014	6,472
9. *Luxembourg*	—	90	—	90
10. Norway	—	14	2,264	2,278
11. *Netherlands*	464	157	731	1,352
12. Portugal	32	—	1,203	1,235
13. United Kingdom	247	824	578	1,649
14. Sweden	135	80	3,160	3,375
15. Switzerland	70	136	1,103	1,309
16. Turkey	—	51	5,451	5,502
17. Yugoslavia	—	—	2,126[2]	2,126
E.C.M.T.	6,055	5,860	37,978	49,893
E.E.C.	5,175	3,923	11,641	20,739

1. Spain: 396 km of unclassified roads are included in Category I.
2. Including 736 km of roads reserved for motor traffic and having no single-level junctions.

TABLE 6. IMPROVEMENT OF INTERNATIONAL ROAD NETWORKS
SITUATION AT END 1963
E.E.C. countries are in italics

COUNTRY	TOTAL LENGTH	LENGTH STANDARDIZED IN						TOTAL LENGTH STANDARDIZED (KM)	OVERALL RATIO OF STANDARDIZED LENGTH (%)
		CATEGORY A		CATEGORY II		CATEGORY I			
		KM	%	KM	%	KM	%		
1. *Germany* (F.R.)	5,792	2,816	100	78	65	1,297	45	4,191	72
2. Austria	1,811	247	86[2]	55	64	457	32	759	42
3. *Belgium*	1,090	196	100	340	62	175	50	711	65
4. Denmark	886	69	100	348	100	264	56	681	77
5. Spain	5,932	39	100	238	63	2,874	52	3,151	53
6. *France*	5,943	281	100	563	29	3,023	82	3,867	65
7. Greece (1961)	3,051	—	—	22	100	753	24	775	25
8. *Italy*	6,472	1.418	100	544	52	1.987	49	3,949	61
9. *Luxembourg*	90	—	—	51	57	—	—	51	57
10. Norway	2,278	—	—	11	79	713	31	724	32
11. *Netherlands*	1,352	464	100	108	69	498	68	1,070	79
12. Portugal	1,235	32	100	—	—	315	26	347	28
13. United Kingdom	1,649	246	100	607	74	68	12	921	56
14. Sweden	3,375	135	100	80[1]	100	2.360[1]	75	2,575[1]	76
15. Switzerland	1,309	70		90	66	711	65	871	67
16. Turkey (1962)	5,502	—	—	51	100	3.135	57	3,186	58
17. Yugoslavia	2,126	—	—	—	—	1.601	75	1,601	75
E.C.M.T.	49.893	6.604	97	3.186	54	20.231	53	29,430	59
E.E.C.	20.739	5.175	100	1.684	43	6.980	60	13,839	67

1. Estimate.
2. Certain motorway sections are provisionally limited to one carriageway (E 94).

TABLE 7. INTERNATIONAL ROAD NETWORKS. LENGTH OF SECTIONS OF ADEQUATE CAPACITY

COUNTRY	CATEGORY						ALL CATEGORIES (KM)	% OF TOTAL NETWORK
	A		II		I			
	KM	%	KM	%	KM	%		
1. *Germany* (F.R.)	2,816	100	119	100	2,372	83	5,307	92
2. Austria	288	100	86	100	1,137	79	1,511	83
3. *Belgium*	196	100	297	54	323	93	816	75
4. Denmark	69	100					640	71
5. Spain	39	100					5,507	93
6. *France*	281	100	459	21	3,135	85	3,875	65
7. Greece (1961)	—	—	22	100	969	32	991	32
8. *Italy*	1,418	100	900	87	2,169	54	4,487	69
9. *Luxembourg*	—	—	51	57	—	—	51	57
10. Norway	—	—	11	79	2,101	93	2,112	93
11. *Netherlands*	453	98	70	45	444	61	967	71
12. Portugal	32	100	—	—	1,065[1]	88	1,097[1]	89
13. United Kingdom	247	100	518	63	160	28	925	56
14. Sweden	135	100						
15. Switzerland	70	100						
16. Turkey	—	—	51	100	5,451	100	5,502	100
17. Yugoslavia	—	—	—	—	2,126	100	2,126	100
E.C.M.T.	6,046	100	2,584[2]	53[2]	21,008[2]	56[2]	35,914[3]	79[3]
E.E.C.	5,166	100	1,896	48	7,999	69	15,503	75

1. Estimate.
2. 13 countries.
3. 15 countries.

TABLE 8. ROAD INVESTMENT (INTERNATIONAL NETWORK)
E.E.C. countries are in italics

Gross investment in $ million.

COUNTRY	1962	1963	FORECASTS FOR 1964	
			INTERNATIONAL NETWORK	TOTAL NETWORK
1. *Germany* (F.R.)	156.9	173.8	187.4	
2. Austria	8.4	45.0	42.0	79.5
3. *Belgium*	25.0	44.0	60.0	108.0
4. Denmark	6.5	11.0[1]		43.0
5. Spain	5.9	13.0	15.0	90.0
6. *France*	50.0	108.0	128.0	544.0
7. Greece	27.9[2]			
8. *Italy*	16.4	39.5	20.6	114.7
9. *Luxembourg*	0.6	0.6	0.7	4.3
10. Norway	9.6	10.9	14.0	74.1
11. *Netherlands*	31.8	29.3	32.9	207.2
12. Portugal	5.7	2.2	1.7	13.8
13. United Kingdom	59.5	82.4	105.1	478.0
14. Sweden	24.0	24.0	26.0	147.0
15. Switzerland	98.0	100.0	100.0	250.0
16. Turkey	19.9	19.5[2]		
17. Yugoslavia	2.8	18.4	2.2	85.0
E.C.M.T.	548.9	721.6[3]	735.6[4]	2,238.6[4]
E.E.C.	302.3	395.2	429.6	978.2[5]

1. Estimate.
2. Forecast.
3. 16 countries.
4. 14 countries.
5. 5 countries.

TABLE 9. GOODS TRAFFIC CARRIED BY INLAND WATERWAYS

Thousands of tons.

COUNTRY	YEAR	INTERNAL TRAFFIC	INTERNATIONAL TRAFFIC		GOODS IN TRANSIT	TOTAL TONNAGE CARRIED	TOTAL TON-KILOMETRES (millions)	TON-KILOMETRES IN INDEX FORM 155 = 100	AVERAGE LENGTH OF HAUL (km)
			LOADED	DISCHARGED					
Federal Republic of Germany[1]	1955	64,418	21,908	31,606	6,680	124,612	28,624	100	230
	1960	86,797	31,775	45,847	6,943	171,362	40,390	141	236
	1961	90,817	32,167	42,680	6,551	172,215	40,214	140	234
	1962	90,818	30,626	42,951	6,379	170,774	39,936	139	234
	1963	84,995	30,698	49,127	6,506	171,326	39,491	138	236
Austria	1955	284	616	1,738	473	3,112	507	100	163
	1960	1,190	1,304	3,016	692	6,202	962	190	155
	1961	664	1,219	2,941	670	5,494	904	178	164
	1962	691	1,239	2,708	753	5,391	919	181	170
	1963	510	1,074	3,440	769	5,793	995	196	172
Belgium	1955	22,572	15,826	16,441	2,001	56,840	4,617	100	81
	1960	24,379	13,214	20,573	2,991	61,158	5,226	113	85
	1961	24,821	14,921	21,877	3,496	65,115	5,473	119	84
	1962	25,522	15,709	22,156	3,254	66,641	5,421	117	81
	1963	22,778	16,156	22,599	3,268	64,801	5,201	113	80
France	1955	40,211	7,752	5,475	4,817	58,255	8,917	100	153
	1960	46,152	7,420	6,955	7,522	68,049	10,773	121	158
	1961	48,718	7,543	7,759	7,138	71,158	11,262	126	158
	1962	49,713	6,470	8,064	7,289	71,536	11,234	126	157
	1963	51,208	9,164	8,187	7,656	76,837	11,357	124	145
Italy	1955	2,135	1	120	—	2,256	...	...	...
	1960	2,422	—	118	—	2,540	...	...	...
	1961	2,356	—	331	—	2,687	...	...	...
	1962	2,553	...	291	—	2,844	...	...	...
	1963	2,471	175	363	—	3,009	...	...	...
Netherlands	1955	44,426	33,889	20,369	13,589	112,273	15,255	100	136
	1960	58,117	50,173	22,987	18,394	149,671	20,020	131	134
	1961	61,131	49,082	23,475	18,855	152,543	20,247	133	133
	1962	63,292	49,558	22,868	18,047	153,765	20,281	133	132
	1963	60,116	48,858	22,278	19,588	150,840	20,154	132	134
Switzerland	1955	2	457	4,131	164	4,763	14	100	3
	1960	2	502	6,460	228	7,192	29	207	4
	1961	2	324	6,493	208	7,027	30	214	4
	1962	2	294	6,788	182	7,266	31	222	4
	1963	2	321	7,960	186	8,469	35	250	4
Yugoslavia	1955	2,763	400	122	2,875	6,160	2,106	100	342
	1960	4,511	692	690	4,152	10,045	3,272	155	326
	1961	4,839	719	662	3,714	9,934	3,037	144	306
	1962	4,154	717	736	3,854	9,501	3,194	152	336
	1963	5,180	784	891	3,964	10,819	3,518	167	325

1. Provisional figures for 1963.

TABLE 10. RHINE TRANSPORT AT THE GERMAN-NETHERLANDS FRONTIER (EMMERICH/LOBITH)

Thousands of tons.

	UNIT	1955	1961	1962	1963
1. Total traffic	1,000 tons	50,116	68,422	66,150	66,616
	Index	100	137	132	133
2. Downstream movements	1,000 tons	18,033	25,031	23,248	22,985
	Index	100	139	129	127
3. Upstream movements	1,000 tons	32,083	43,391	42,911	43,631
	Index	100	135	134	136
4. Upstream movements not including hydrocarbons	1,000 tons	26,823	36,509	33,900	34,630
	Index	100	136	129	129
5. Coal and coke (upstream)	1,000 tons	5,563	2,733	3,407	3,963
	Index	100	49	61	71
6. Iron ore (upstream)	1,000 tons	8,266	16,309	13,846	13,800
	Index	100	197	167	167
7. Hydrocarbons (upstream)	1,000 tons	5,260	6,882	9,011	9,001
	Index	100	131	171	171
8. Other goods (upstream)	1,000 tons	12,994	17,467	16,647	16,867
	Index	100	134	132	130

TABLE 11. RHINE TRANSPORT AT THE GERMAN-NETHERLANDS FRONTIER EMMERICH/LOBITH

Thousands of tons.

	1961	1962	1963	1963 as % of 1962
UPSTREAM MOVEMENTS:				
January	3,548	4,011	1,022	25
February	3,192	3,398	907	27
March	3,727	4,275	4,354	102
April	3,591	3,618	4,359	120
May	3,713	3,758	4,269	114
June	3,819	4,100	4,139	101
July	3,876	4,463	4,756	107
August	4,037	4,361	4,769	109
September	3,858	3,468	4,074	117
October	3,130	2,506	3,994	159
November	3,422	2,170	3,619	167
December	3,478	2,783	3,371	121
Year	43,391	42,911	43,633	102
DOWNSTREAM MOVEMENTS:				
January	1,958	2,022	230	11
February	1,872	1,996	154	8
March	2,344	2,235	1,650	74
April	2,003	1,882	2,460	131
May	2,134	2,428	2,694	111
June	2,284	2,286	2,387	104
July	2,132	2,219	2,447	110
August	2,137	2,308	2,417	105
September	2,197	1,926	2,391	124
October	1,946	1,560	2,346	150
November	2,011	1,219	2,018	166
December	2,013	1,167	1,792	154
Year	25,031	23,248	22,986	99

TABLE 12. NUMBER OF BOATS, BROKEN DOWN BY CARGO CAPACITY, AT END OF 1963

COUNTRY	CLASS	SELF-PROPELLED BARGES			DUMB BARGES[2]			TOTAL CARGO-CARRYING CRAFT			TUGS + PUSHERS			
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		TYPE	NUMBER	HORSE POWER	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)			TOTAL (TONS)	AVERAGE (TONS)
WESTERN GERMANY[1]:														
Up to 250 t	0	1,230	173,982	141	199	28,174	142	1,429	202,156	141	Up to 250 hp	...	...	...
From 251 to 400 t.	I	903	289,227	320	209	67,110	321	1,112	356,337	320	From 251 to 400 hp.	...	...	...
From 401 to 650 t.	II	986	514,335	522	422	229,482	544	1,408	743,817	528	From 651 to 1.000 hp.	...	...	...
From 651 to 1.000 t.	III	1,739	1,497,210	861	881	742,201	842	2,620	2,239,411	855	Over 1,000 hp	...	...	...
From 1,001 to 1,500 t.	IV	287	355,636	1,239	627	827,568	1,320	914	1,183,204	1,294				
Over 1,500 t	V	7	12,932	1,847	131	236,299	1,804	138	249,231	1,806				
Total		5,152	2,843,322	552	2,469	2,130,834	863	7,621	4,974,156	653	Total	763	283,678	372
AUSTRIA:														
Up to 250 t	0	—	...	...	1	222	222	1	222	222	Up to 250 hp	1	105	105
From 251 to 400 t.	I	1	341	341	1	333	333	2	674	337	From 251 to 400 hp	4	900	225
From 401 to 650 t.	II	1	555	555	36	21,108	586	37	21,663	585	From 401 to 1,000 hp.	27	22,670	840
From 651 to 1,000 t.	III	2	1,708	854	231	194,421	842	233	196,129	842	Over 1,000 hp	8	9,370	1,171
From 1,001 to 1,500 t.	IV	—	—	...	43	49,617	1,154	43	49,617	1,154				
Over 1,500 t	V	—	—	...	—	—	...	—	...	...				
Total		4	2,604	651	312	265,701	852	316	268,305	849	Total	40	33,045	826
BELGIUM:														
Up to 250 t	0	481	69,548	145	58	7,894	136	539	77,442	144	Up to 250 hp	150	17,626	118
From 251 to 400 t.	I	3,393	1,201,813	354	229	82,105	359	3,622	1,283,918	354	From 251 to 400 hp.	23	7,070	307
From 401 to 650 t.	II	759	384,603	507	202	100,085	495	961	484,688	504	From 401 to 1,000 hp	3	1,770	590
From 651 to 1,000 t.	III	358	300,267	839	56	49,012	875	414	349,279	844	Over 1,000 hp	—	—	—
From 1,001 to 1,500 t.	IV	121	149,569	1,236	156	210,276	1,348	277	359,845	1,299				
Over 1,500 t	V	11	18,762	1,706	65	113,142	1,741	76	131,904	1,736				
Total		5,123	2,124,562	415	766	562,514	734	5,889	2,687,076	456	Total	176	26,466	150
FRANCE:														
Up to 250 t	0	462	73,001	158	1,145	97,970	86	1,607	170,971	106	Up to 250 hp	308	26,464	86
From 251 to 400 t.	I	4,407	1,564,507	355	1,755	617,225	352	6,162	2,181,732	354	From 251 to 400 hp.	44	14,827	337
From 401 to 650 t.	II	515	231,993	450	636	280,679	441	1,151	512,672	445	From 401 to 1,000 hp.	123	75,049	610
From 651 to 1,000 t.	III	245	203,367	830	245	193,525	790	490	396,892	810	Over 1,000 hp	10	21,290	2,129
From 1,001 to 1,500 t.	IV	10	11,224	1,122	113	145,626	1,289	123	156,850	1,275				
Over 1,500 t	V	1	1,516	1,516	102	173,520	1,701	103	175,036	1,699				
Total		5,640	2,085,608	370	3,996	1,508,545	378	9,636	3,594,153	373	Total	485	137,630	284
ITALY:														
Up to 250 t	0	589	49,907	85	2,080	104,366	50	2,669	154,273	58	Up to 250 hp	114	7,484	66
From 251 to 400 t	I	—	...	...	...	...	...	...	...	...	From 251 to 400 hp	—	—	—
From 401 to 650 t	II	7	3,938	563	—	—	—	7	3,938	563	From 401 to 1,000 hp.	—	—	—
From 651 to 1,000 t	III	2	1,800	900	...	...	...	2	1,800	900				
From 1,001 to 1,500 t.	IV	...	...	...	...	...	...	...	...	...				
Over 1,500 t	V	...	...	...	...	...	...	...	...	...				
Total		598	55,645	93	2,080	104,366	50	2,678	160,011	60				
LUXEMBOURG:														
Up to 250 t	0	...	...	...	...	...	...	...	...	...	Up to 250 hp	...	...	...
From 251 to 400 t.	I	...	...	...	...	...	...	...	...	...	From 251 to 400 hp	...	...	...
From 401 to 650 t	II	...	...	...	...	...	...	...	...	...	From 401 to 1,000 hp	...	...	...
From 651 to 1,000 t.	III	...	...	...	...	...	...	...	...	...				
From 1,001 to 1,500 t.	IV	...	...	...	...	...	...	...	...	...				
Over 1,500 t	V	...	...	...	...	...	...	40	1,800	450				
Total		...	...	...	...	...	...	40	1,800	450	Total	...	...	...
NETHERLANDS:														
Up to 250 t	0	7,062	798,685	113	5,958	468,310	79	13,020	1,266,995	97	Up to 250 hp	1,775	114,397	110
From 251 to 400 t.	I	2,112	685,716	325	449	144,500	322	2,561	830,216	324	From 251 to 400 hp.	210	65,187	310
From 401 to 650 t.	II	1,522	778,494	511	797	408,966	513	2,319	1,187,460	512	From 401 to 1,000 hp.	160	88,436	553
From 651 to 1,000 t.	III	612	504,992	825	514	429,627	836	1,126	934,619	830	Over 1,000 hp	29	41,051	1,416
From 1,001 to 1,500 t.	IV	188	234,274	1,246	517	668,695	1,293	705	902,969	1,281				
Over 1,500 t	V	18	36,639	2,036	332	662,074	1,994	350	698,713	1,996				
Total		11,514	3,038,800	264	8,567	2,782,172	325	20,081	5,820,972	290	Total	2,174	389,071	179
SWITZERLAND:														
Up to 250 t	0	6	1,191	199	—	—	—	6	1,191	199	Up to 250 hp	3	575	192
From 251 to 400 t.	I	25	7,917	317	1	358	358	26	8,275	318	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	51	27,507	539	1	647	647	52	28,154	541	From 401 to 1,000 hp.	5	3,080	616
From 651 to 1,000 t.	III	166	140,883	849	13	12,441	957	179	153,324	857	Over 1,000 hp	10	25,900	2,590
From 1,001 to 1,500 t.	IV	96	115,237	1,200	47	61,745	1,314	143	176,982	1,238				
Over 1,500 t	V	20	33,986	1,699	18	30,810	1,712	38	64,796	1,705				
Total		364	326,721	898	80	106,001	1,325	444	432,722	975	Total	18	29,555	1,642
YUGOSLAVIA:														
Up to 250 t	0	—	—	...	...	...	...	...	...	...	Up to 250 hp	172	15,810	92
From 251 to 400 t.	I	14	2,306	165	120	24,516	204	134	26,822	200	From 251 to 400 hp			
From 401 to 650 t.	II	5	3,047	609	210	113,669	541	215	116,716	543	From 401 to 1,000 hp.	71	53,763	757
From 651 to 1,000 t.	III	2	1,349	675	270	197,880	733	272	199,229	732	Over 1,000 hp			
From 1,001 to 1,500 t.	IV	—	—	—	62	70,347	1,135	62	70,347	1,135				
Total		21	6,702	319	662	406,412	614	683	413,114	605	Total	243	69,573	286

1. According to situation at end of 1962.
2. Including pushed barges.

TABLE 13. DEVELOPMENT OF THE FLEET

COUNTRY	AT END OF YEAR	SELF-PROPELLED BARGES			DUMB BARGES[3]			TOTAL CARGO-CARRYING BOATS			TUGS		
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	HORSE POWER	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)
Federal Republic of Germany[1]	1955	3,094	1,363,870	441	3,614	2,650,609	733	6,708	4,014,479	598	834	319,130	383
	1960	4,560	2,380,679	522	2,931	2,459,086	839	7,491	4,839,765	646	788	290,678	371
	1961	4,889	2,603,474	533	2,712	2,309,383	852	7,601	4,912,857	646	767	282,684	369
	1962	5,152	2,843,322	552	2,469	2,130,834	863	7,621	4,974,156	653	763	283,678	372
	1963	5,380	3,050,562	567	2,250	1,949,694	867	7,630	5,000,256	655	751	278,978	371
Austria	1955	2	1,118	559	261	205,729	788	263	206,847	786	35	26,490	757
	1960	2	896	448	299	249,233	834	301	250,149	831	38	30,885	813
	1961	2	896	448	303	253,662	837	305	254,558	835	40	31,905	798
	1962	2	896	448	312	264,441	848	314	265,337	845	40	33,095	827
	1963	4	2,604	651	312	265,701	852	316	268,305	849	40	33,045	826
Belgium	1955	4,386	1,522,546	347	1,764	879,238	498	6,150	2,401,784	391	225	26,140	116
	1960	5,128	1,952,619	381	963	614,040	638	6,091	2,566,689	421	176	24,529	139
	1961	5,153	2,021,587	392	877	586,776	669	6,030	2,608,363	433	171	23,573	138
	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
France	1955	3,925	1,396,719	356	6,506	2,378,053	366	10,431	3,774,772	362	429	135,025	315
	1960	5,037	1,849,895	367	4,706	1,701,925	362	9,743	3,551,820	365	475	129,751	273
	1961	5,243	1,935,459	369	4,404	1,611,997	366	9,647	3,547,456	368	468	126,865	271
	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	137,630	284
Italy	1955	353	36,766	104	1,256	102,686	82	1,609	139,452	87	80	6,323	79
	1960	536	47,426	88	1,902	104,150	55	2,438	151,576	62	99	7,140	72
	1961	572	50,378	88	1,882	104,167	55	2,454	154,545	63	97	6,935	71
	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
Luxembourg[2]	1955	—	—	—	—	—	—	—	—	—	—	—	—
	1960	—	—	—	—	—	—	—	—	—	—	—	—
	1961	26	9,310	358	11	5,260	478	37	14,570	394	1	...	...
	1962	26	9,310	358	11	5,260	478	37	14,570	394	1	...	...
	1963	...	...	...	...	...	...	40	18,000	450	...	...	...
Netherlands	1955	8,068	1,473,189	195	7,420	2,732,459	368	15,488	4,205,648	272	...	...	...
	1960	10,411	2,391,367	230	8,513	2,737,556	322	18,924	5,128,923	271	2,119	352,965	167
	1961	10,736	2,583,410	241	8,506	2,741,857	322	19,242	5,325,267	277	2,128	363,097	171
	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
Switzerland	1955	274	203,896	744	64	63,636	994	338	267,532	792	19	24,800	1,305
	1960	351	305,639	871	56	70,141	1,253	407	375,780	923	16	23,355	1,460
	1961	353	312,048	884	59	76,036	1,289	412	388,084	942	16	25,205	1,576
	1962	357	316,472	886	76	99,693	1,312	433	416,165	961	16	28,110	1,577
	1963	364	326,721	898	80	106,001	1,325	444	432,722	975	18	29,555	1,642
Yugoslavia	1955	18	5,137	285	726	302,327	416	744	307,464	413	145	34,685	239
	1960	21	6,304	300	600	361,458	602	621	367,762	392	167	50,834	304
	1961	18	5,915	329	610	383,328	618	628	389,243	620	188	47,306	252
	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

1. For 1963: provisional figures - source: publication by the Federal Ministry of Transport.
2. For 1963: estimated figures.
3. Including pushed barges.

TABLE 14. NEW OR USED BOATS BROUGHT INTO SERVICE DURING 1963

COUNTRY	CLASS	SELF PROPELLED BARGES			DUMB BARGES[2]			TOTAL CARGO-CARRYING CRAFT			TUGS + PUSHERS			
		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		NUMBER	CARGO CAPACITY		TYPE	NUMBER	HORSE POWER	
			TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)		TOTAL (TONS)	AVERAGE (TONS)			TOTAL (TONS)	AVERAGE (TONS)
WESTERN GERMANY[1]:														
Up to 250 t	0	—	—	—	—	—	—	—	—	—	Up to 250 hp	—	—	—
From 251 to 400 t.	I	—	—	—	—	—	—	—	—	—	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	—	—	—	—	—	—	—	—	—	From 401 to 1.000 hp.	—	—	—
From 651 to 1.000 t.	III	—	—	—	—	—	—	—	—	—	Over 1,000 hp	—	—	—
From 1,001 to 1,500 t.	IV	—	—	—	—	—	—	—	—	—				
Over 1,500 t	V	—	—	—	—	—	—	—	—	—				
Total		—	—	—	—	—	—	—	—	—	Total	—	—	—
AUSTRIA:														
Up to 250 t	0	—	—	—	—	—	—	—	—	—	Up to 250 hp	—	—	—
From 251 to 400 t.	I	—	—	—	—	—	—	—	—	—	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	—	—	—	—	—	—	—	—	—	From 401 to 1,000 hp.	1	950	950
From 651 to 1,000 t.	III	2	1,708	854	—	—	—	2	1,708	854	Over 1,000 hp	—	—	—
From 1,001 to 1,500 t.	IV	—	—	—	3	3,827	1,276	3	3,827	1,276				
Over 1,500 t	V	—	—	—	—	—	—	—	—	—				
Total		2	1,708	854	3	3,827	1,276	5	5,535	1,107	Total	1	950	950
BELGIUM:														
Up to 250 t	0	—	—	—	—	—	—	—	—	—	Up to 250 hp	—	—	—
From 251 to 400 t.	I	48	18,191	379	1	384	384	49	18,575	379	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	21	10,911	490	—	—	—	21	10,911	490	From 401 to 1,000 hp.	1	700	700
From 651 to 1,000 t.	III	20	17,062	853	1	728	728	21	17,790	847	Over 1,000 hp			
From 1,001 to 1,500 t.	IV	20	24,464	1,223	9	11,849	1,317	29	36,313	1,252				
Over 1,500 t	V	1	1,698	1,698	—	—	—	1	1,698	1,698				
Total		110	72,326	658	11	12,961	1,178	121	85,287	705	Total	1	700	700
FRANCE:														
Up to 250 t	0	4	642	161	4	447	112	8	1,089	136	Up to 250 hp	1	80	80
From 251 to 400 t.	I	10	3,809	381	41	14,755	360	51	18,564	364	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	10	4,259	426	45	19,024	423	55	23,283	423	From 401 to 1,000 hp.	9	8,400	933
From 651 to 1,000 t.	III	—	—	—	14	13,351	954	14	13,351	954	Over 1,000 hp	—	—	—
From 1,001 to 1,500 t.	IV	—	—	—	3	3,951	1,317	3	3,951	1,317				
Over 1,500 t	V	—	—	—	19	35,725	1,880	19	35,725	1,880				
Total		24	8,710	363	126	87,253	692	150	95,963	640	Total	10	8,480	848
ITALY:														
Up to 250 t	0	34	3,862	114	58	992	17	92	4,854	53	Up to 250 hp	6	389	65
From 251 to 400 t.	I	—	—	—	—	—	—	—	—	—	From 251 to 400 hp.	—	—	—
From 401 to 650 t.	II	—	—	—	—	—	—	—	—	—	From 401 to 1,000 hp.	—	—	—
From 651 to 1,000 t.	III	—	—	—	—	—	—	—	—	—		—	—	—
From 1,001 to 1,500 t.	IV	—	—	—	—	—	—	—	—	—				
Over 1,500 t	V	—	—	—	—	—	—	—	—	—				
Total		34	3,862	114	58	992	17	92	4,854	53		6	389	65
NETHERLANDS:														
Up to 250 t	0	53	5,575	105	92	11,376	124	145	16,951	117	Up to 250 hp	14	2,158	154
From 251 to 400 t.	I	110	38,562	351	23	7,391	321	133	45,953	346	From 251 to 400 hp.	3	850	283
From 401 to 650 t.	II	81	42,160	520	16	8,506	532	97	50,666	522	From 401 to 1,000 hp.	9	5,147	572
From 651 to 1,000 t.	III	55	43,088	783	36	29,714	825	91	72,802	800	Over 1,000 hp	2	2,000	1,000
From 1,001 to 1,500 t.	IV	22	26,137	1,188	6	7,939	1,323	28	34,076	1,217				
Over 1,500 t	V	5	9,864	1,973	22	37,055	1,684	27	46,919	1,738				
Total		326	165,386	507	195	101,981	523	521	267,367	513	Total	28	10,155	363
SWITZERLAND:														
Up to 250 t	0	—	—	—	—	—	—	—	—	—	Up to 250 hp	...	...	...
From 251 to 400 t.	I	—	—	—	—	—	—	—	—	—	From 251 to 400 hp.	...	...	...
From 401 to 650 t.	II	—	—	—	—	—	—	—	—	—	From 401 to 1,000 hp.	...	...	...
From 651 to 1,000 t.	III	3	2,861	954	1	873	873	4	3,734	934	Over 1,000 hp	...	...	...
From 1,001 to 1,500 t.	IV	5	1,194	1,194	—	—	—	5	5,971	1,194				
Over 1,500 t	V	2	3,433	1,717	4	6,804	1,701	6	10,237	1,706				
Total		10	12,265	1,227	5	7,677	1,536	15	19,942	1,329	Total	...	...	...
YUGOSLAVIA:														
Up to 250 t	0	—	—	—	...	...	...	...	...	...	Up to 250 hp	...	...	...
From 251 to 400 t.	I	—	—	—	...	...	...	...	...	...	From 251 to 400 hp.	...	...	...
From 401 to 650 t.	II	1	650	650	...	...	...	...	...	...	From 401 to 1,000 hp.	...	...	...
From 651 to 1,000 t.	III	—	—	—	...	...	...	...	...	...	Over 1,000 hp	...	...	...
From 1,001 to 1,500 t.	IV	—	—	—	...	...	...	...	...	...				
Over 1,500 t	V	—	—	—	...	...	...	...	...	...				
Total		1	650	650	51	41,117	806	52	41,767	803	Total	12	7,840	653

1. During 1962.
2. Including pushed barges.
In Luxembourg, no new boats were brought into service during 1963.

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CONCLUSIONS
CONCERNING THE CO-ORDINATION OF ROAD TRAFFIC RULES ADOPTED BY THE MINISTERS REPRESENTING 14 COUNTRIES

[*CM/GR*3(64)4 *final*]

The Ministers representing the following countries: Austria, Belgium, Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom,

Meeting in Paris on 3rd December, 1964;

Having noted the proposals submitted to them, covering a third series of sections of the highway codes;

Considering the importance of road signs and signals indicating right of way as a means of ensuring the sound organisation of traffic and promoting the safety of road users;

Noting the favourable opinion expressed by the O.T.A.,

I. APPROVE the principles laid down in the documents below [CM/GR3(64)2 and 3].

II. CONFIRM THEIR INTENTION, declared at previous meetings, of taking steps to have the principles approved to date embodied in their national legislation with all possible speed, so that the work done may produce its practical and beneficial effects as soon as possible at both national and international level;

III. As agreed, when the first two series of texts were adopted;

REQUEST their Chairman to communicate CM/GR3(64)2 and 3 to their colleagues of the E.C.M.T. Member countries who have not taken part in the work of the Group, with a request that they examine the possibility of adopting the conclusions hitherto reached;

IV. In order that these conclusions may be brought to the knowledge of an appropriate public, which may make good use of the results already achieved,

CONSIDER it useful that any Ministers who deem it advisable should embody these conclusions in the official publications issued in their own countries;

V. INSTRUCT THE EXPERTS:

a) to continue their study of the subjects still outstanding, giving priority to co-ordination of road signs and signals, approach signs to level crossings and road markings;

b) to submit their proposals for texts concerning the above subjects by the end of 1965 if possible;

c) to combine all the texts approved by the Ministers into a single document without delay;

VI. APPROVE the list of the subjects still outstanding and invite the Experts to speed up their work so as to produce complete results in the very early future.

TEXTS OF THE CO-ORDINATION OF ROAD TRAFFIC RULES

[*CM/GR*3(62)2 *final*]
[*CM/GR*3(63)3 *final*]

AMENDMENTS ADOPTED BY THE MINISTERS AT THEIR SESSION OF 2nd DECEMBER, 1964

[*CM/GR*3(64)2]

Chapter IV. RIGHT OF WAY

5. *Special rule.* Text to be replaced by the following:

When traffic is halted at an intersection, drivers may not stop their vehicles in such a position as to prevent the passage of other drivers moving along the transverse road.

When traffic is halted at the approaches to a pedestrian crossing, drivers may not stop their vehicles on that crossing.

Chapter IX. OVERTAKING

4. *Obligation on the driver overtaken.*

Text to be replaced by:

Drivers about to be overtaken on the left shall keep as close as possible to the right-hand side of the road and shall refrain from accelerating.

Chapter XIII. PARKED AND STATIONARY VEHICLES

First two paragraphs to be replaced by:

Vehicles may be parked only on the right-hand side of the road appropriate to the direction of the traffic.

Nevertheless, stopping or parking on the left-hand side of the road is permissible where stopping on the right is prevented by the presence of rail tracks or, if authorised by national regulations, where stopping or parking on the right is prohibited by road signs.

Chapter XXII

I, 1, A, *b*), 3°, second sub-paragraph to be replaced by:

This rule shall also be applicable to boats approaching from the opposite direction on their own waterway alongside the road, if the navigator might be dazzled by main-beam headlights.

It shall also apply to rail vehicles approaching from the opposite direction on a track on the carriageway itself or on a separate track alongside the carriageway.

III. ADVANCE SIGNALLING OF VEHICLES STATIONARY ON THE CARRIAGEWAY

Text proposed after further consideration:

Advance warning shall be given of the presence of any motor vehicle or trailer, whether coupled or not, other than motor-cycles and mopeds, which may be stopped or parked outside a built-up area, by means of at least one appropriate sign placed at the most suitable spot to give sufficiently early warning to other approaching drivers when:

1. the driver has been compelled to stop his vehicle in a place where stopping is prohibited under the provisions of Chapter XIV, 1 *a*), 1, 5 and 6 and Chapter XXVI, 6;
2. the vehicle is stopped on the carriageway either at night or by day when visibility is reduced by weather or other conditions, so that in either case approaching drivers are unaware of the obstacle constituted by the stationary vehicle.

In built-up areas, the above provisions may be made applicable under the same conditions.

National legislation may lay down the same provisions for animal-drawn vehicles.

NEW TEXTS ADOPTED BY THE MINISTERS ON THE CO-ORDINATION OF ROAD TRAFFIC RULES AT THEIR SESSION OF 2nd DECEMBER, 1964

[*CM/GR3*(64)3 *final*]

ROAD SIGNS AND SIGNALS

Chapter XXXI. PRIORITY SIGNS[1]

I. *Sign III, A8.*

The sign "Priority road" (III, A.8) indicates to drivers travelling along the road on which this sign is placed that they have right of way at the successive intersections formed by that road with all other roads joining it or crossing it.

This sign shall be placed at the beginning of the road and repeated at each intersection[2].

Outside built-up areas, it shall be placed after each intersection.

In built-up areas, it may be placed before, after or at the intersection.

II. *Signs III, A9. and III, A.9a*

The sign "End of priority road" (III, A.9) indicates that, from the point where it is erected, the road loses the priority conferred upon it by the sign III, A.8.

Nevertheless, if the right-of-way does not expire until an intersection at which the other road retains priority, the authorities may refrain from setting up the sign III, A.9 provided that the sign I, 22 or II, A.16 is set up and is preceded by an advance sign so that drivers concerned are informed clearly and in good time that they must give way to drivers travelling along the road which they are approaching.

The sign III, A.9 may be preceded by the same sign supplemented by a rectangular plate indicating the distance at which the priority ends (III, A.9*a*).

III. *Sign I, 20*

The sign "Intersection with one or more non-priority roads" (I, 20) shall be placed on a road which has not been indicated as a priority road by the sign III, A.8, as an approach sign to an intersection where drivers travelling along that road have right of way over those entering it from the other road or roads which form the intersection.

Outside built-up areas, the sign I, 20 may also be placed, in addition to sign III, A.8, on a road indicated by the latter sign as a "priority road", especially in cases where the intersection is particularly complex or involves special risks, or if the intersection cannot be seen from a sufficient distance by approaching drivers.

At certain road junctions, the symbol may be modified by showing the horizontal bar on only one side of the vertical arrow or at a slant, if necessary, so as to represent the junction diagrammatically.

Outside built-up areas, the sign I, 20 shall be placed not less than 150 m or more than 250 m before the intersection to which it relates, unless local conditions prevent. In any case, it must be placed after the last intersection preceding that to which refers.

If this sign is placed less than 150 m before the intersection, a rectangular plate shall be added below the sign to indicate the distance between the sign and the intersection.

In built-up areas, the sign shall be placed immediately before the intersection to which it relates.

1. The United Kingdom Delegation has entered a general reservation concerning signs III, A.8; I, 20; III, A.9 and I, 7 because this system of indicating right of way is not used in the United Kingdom.

2. Swiss reservation: The Swiss Delegation considers that sign III, A.8 should not be repeated at each intersection.

IV. *Sign I, 22*

1. The sign "Give way" (I, 22) shall be used to indicate to a driver that he shall give way to vehicles moving along the road which he is approaching.

2. This sign shall be placed on a road forming an intersection with a road to which priority has been given by sign III, A.8 or sign I, 20 at a distance of not more than 50 m from the intersection outside built-up areas and near the intersection in built-up areas and, in any case, at a distance of not more than 25 m.

The authorities may also place a mark on the road surface as near as possible to the intersection, to repeat the obligation to give way.

3. When sign I, 22 cannot be seen from a sufficient distance, it shall be preceded by an advance sign placed in the most suitable spot and in any case after the last intersection preceding that to which it refers; this will consist of the sign I, 22 supplemented by a rectangular plate indicating the distance between the spot where it is placed and the intersection.

V. *Sign II, A.16*

1. The sign "Stop at intersection" (II, A.16) is used to indicate to a driver that he must stop before entering the road he is approaching and give way to vehicles moving along that road. This sign is to be used only when the competent authorities consider that access to the road approached is particularly dangerous, especially when visibility is poor.

2. This sign shall consist of a red triangle with the point downwards inscribed within a red circle. The triangle may bear the word "Stop" as shown in the diagramm II, A.16.

National legislations may provide for the reproduction of the symbol and wording in black on a grey ground on the back of the sign.

3. The sign shall be placed on the road without priority as near to the intersection as is practicable. It is recommended that the spot where the driver should stop be marked on the roadway with a continuous transverse line together with the word "Stop".

4. When the sign II, A.16 cannot be seen from a sufficient distance, an approach sign shall be placed at the most appropriate spot. This sign shall consist of (1st alternative)..., sign I, 22 supplemented by a rectangular plate bearing the word "Stop" and indicating the distance from the intersection. (2nd alternative)..., sign II, A.16 supplemented by a rectangular plate bearing an indication of the distance from the intersection.

VI. *Sign I, 7*

8. The sign "Road intersection with priority on right" (I, 7) is used when the authorities consider it useful to place an approach sign for an intersection where the rule of priority on the right is to be observed, particularly when the intersection is not visible from a sufficient distance.

In any case, sign I, 7 shall be placed after the last intersection preceding that to which it refers. Outside built-up areas, if the distance between two intersections permits, sign I, 7 shall be placed not less than 150 m and not more than 250 m from the intersection to which it refers.

Nevertheless, if the authorities consider it useful owing to local conditions and circumstances, the sign may be placed less than 150 m or more than 250 m from the intersection, but in this case a plate shall be added to the sign indicating the distance between the sign and the intersection to which it refers.

In built-up areas, sign I, 7 shall be used only in exceptional cases and shall be placed close to the intersection to which it refers and in any case not more than 25 m from it.

VII. *General provisions concerning signs III, A.8 - III, A.9 - I, 20 - I, 22 - II, A.16 - I, 7*

1. Signs III, A.8 and I, 20 may not be placed on any road unless sign I, 22 or sign II, A.16 is placed on the road or roads with which it forms the intersection to which they refer[1].

Moreover, the use of sign I, 22 or sign II, A.16 implies the use of sign II, A.8 or sign I, 20 on the road along which drivers who have been given right of way are moving.

2. Signs III, A.8; III, A.9; I, 20; I,22; II, A.16 and I, 7 shall be placed on the right-hand side of the road appropriate to the direction followed by the drivers whom they concern;

1. See Swiss reservation about sign III, A.8.

they may also be suspended over that part of the carriageway which is used by those drivers.

Signs I, 22 and II, A.16 shall be repeated on the left-hand side of a one-way road having more than one traffic lane.

The foregoing provisions are also applicable to the corresponding approach signs.

3. When, at an intersection formed with one or more other roads, the road carrying sign III, A.8 or sign I, 20 bends in such a way that its continuity is not clearly apparent, signs III, A.8 or I, 20 and signs I, 22 or II, A.16 preceding the intersection may be supplemented by a panel representing the configuration of the intersection, on which the priority road is shown by a line appreciably broader than those representing the other roads.

VIII. *Sign II, A.20*

The sign "Priority for traffic coming from the opposite direction" (II, A.20) indicates to a driver that he must give way in a narrow passage to a driver approaching from the opposite direction.

IX. *Sign III, A.11*

The sign "Priority over traffic coming from the opposite direction" (III, A.11) indicates to a driver that he has right-of-way in a narrow passage over a driver approaching from the opposite direction.

Signs II, A.20 and III, A.11 shall be set up simultaneously, and shall not be used unless drivers can see clearly both by day and by night over the whole of the narrow passage.

CONCLUSIONS
ON THE ADVISABILITY OF GIVING LEGAL FORM TO THE TEXTS ADOPTED

[*CM/GR*3(64)6 *final*]

The Ministers representing the following countries: Austria, Belgium, Denmark, France, the Federal Republic of Germany, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Meeting in Paris on 2nd December, 1964:

Having regard to the conclusions adopted at the meetings on 3rd April, 1962, 1st-2nd April, 1963, and 2nd December, 1964, approving the principles laid down in the documents annexed to these conclusions [CM/GR3(62)6 final, CM/GR3 (63)4 final and CM/GR3(64)5];

Having regard to the fact that they agreed in these conclusions to keep one another mutually informed of the decisions taken in their countries to embody these principles in their national legislations;

CONSIDERING that road safety calls for the greatest possible co-ordination among Member countries of road traffic rules and of their application;

APPROVE the report below [CM/GR3(64)5 final] prepared by the experts acting on their instructions in the conclusions of 1st-2nd April, 1963, to report on the advisability of giving a legal form to the decisions taken;

TAKE INTO CONSIDERATION the arguments against the preparation of a single European code that would replace national codes, and *agree* not to continue with this project pending a further decision,

DECIDE:

I

1. The obligation to keep one another mutually informed of decisions concerning road traffic shall apply to:

   a) general provisions already taken or to be taken concerning the matters discussed in the conclusions adopted with regard to road traffic;

   b) the decisions taken by the legal or administrative authorities for the interpretation of the rules adopted.

2. The information referred to in 1 shall be reported to the Secretary-General of the E.C.M.T. if possible before and in any case immediately after the measures have been taken. The Secretary-General will communicate the information obtained under the above provision to the Ministers concerned.

II

When a Minister considers it appropriate to amend or supplement the rules drawn up in the conclusions adopted for road traffic, he shall send a proposal to this effect to the Secretary-General who will transmit it forthwith to the other Ministers.

III

1. A Group of Experts shall be set up consisting of at least one delegate from each Minister.

2. The Group of Experts shall be instructed:

a) to examine the information communicated under I;

b) to examine the proposals communicated under II and report on them to the Ministers concerned;

c) to formulate proposals to the Ministers concerned with a view to maintaining and improving the co-ordination of road traffic rules in Member countries;

d) to formulate proposals for conclusions to the Ministers concerned for amending or completing the rules adopted.

3. The Secretary-General shall convene the Group of Experts at least once a year and, in addition, whenever a Minister has proposed an amendment or requested a meeting of the Group of Experts for any other reason.

4. Temporarily and until Restricted Group No. 3 has completed its instructions, it shall be responsible for carrying out the tasks mentioned in 2 above.

REPORT ON THE ADVISABILITY OF GIVING LEGAL FORM TO THE TEXTS ADOPTED BY THE MINISTERS AND ON PROCEDURE FOR THE MUTUAL INFORMATION OF MEMBER COUNTRIES AND THE JOINT EXAMINATION OF PROPOSED AMENDMENTS TO DECISIONS

[*CM/GR*3(64)5]

1. In their Conclusions of 1st and 2nd April, 1963, [CM/GR3(63)4 final), the Ministers of Restricted Group No. 3 instructed their experts to report on the advisability of giving legal form to the texts adopted and the legal procedure which might be envisaged for that purpose.

The conclusions adopted up to the present are binding on the Ministers only and oblige them under Article 9 *a*) of the Protocol of the European Conference of Ministers of Transport of 17th October, 1953, acting individually within the area of their national competence, to take or propose whatever measures may seem to them to be most appropriate. As things now stand neither Governments nor parliaments are bound by the Ministers' conclusions.

No procedure is provided for the amendment of any road transport rules adopted or for mutual consultation on the application of such rules. Some such procedure would appear to be essential, however, in a constantly changing situation where rules have to be regularly adapted to meet road traffic needs and make good deficiencies. Moreover, mutual consultation on the application of the rules seems to be the only way of assessing the progress made in co-ordinating the common principles and embodying them in national legislation.

2. Before submitting these considerations the experts discussed a very important matter: the idea of compiling a European highway code.

This would imply the drafting of a single text to be valid in all Member countries. To use the language of international law, it would mean the adoption of uniform legislation.

Uniform legislation is, for example, adopted on a worldwide basis in commercial law (e.g. maritime law, cheques). It is also to be found, but more rarely, under the Benelux system (private international law) or, more frequently, in the Nordic Council.

This method is impracticable as far as road traffic is concerned, for the following reasons:

a) Road traffic rules fall within the scope of penal legislation. They would therefore have to be drafted in accordance with the general principles of penal legislation. As the general section of penal codes differs from one country to another, road traffic rules could not be drafted in a standard form without leaving gaps and giving rise to certain dangers.

b) No code can ever be complete and subordinate authorities will always be allowed to supplement it in the form of by-laws. In a national context, it is a moot point whether a regional or local by-law furthers the application of the code of works against it. But in a national context, the central authority, to avoid any uncertainty regarding the scope of its subordinate authorities, is empowered to repeal any regional or local by-laws whereas in the European context there is no central authority.

c) No code can ever be complete or sufficiently detailed. Courts of justice will therefore always give their own interpretation of the traffic regulations therein. There is not guarantee that national legal decisions will not be at variance on important problems. Examples of divergent legal decisions in connection with regulations which were standardized by

the Geneva Convention support this view. The institution of a European Court for road traffic offences seems impossible not only because of the volume of these offences but also owing to the absence of any common basis of general penal principles. Even the method of a preliminary ruling, well known in international law, under which the rules of the code could be referred by a national court to a European court whose sole function would be to interpret them seems impossible owing to the number of penal offences and civil procedures in this field.

d) Governments endeavour to make their highway codes clear and comprehensible to road users. A study of recent codes (such as the French one) confirms this view: by their simplicity, clarity and precision they are designed as much for road users as for jurists. This would be lost if a European code were drafted in a neutral style which lent itself to translation in any other style.

For these reasons the experts advise against a European code which would be a unification of national codes in appearance only, so long as it was not interpreted uniformly by the legal and administrative authorities.

3. In place of uniform legislation (European highway code) the experts advocate a system of legislation along similar lines calling for the adoption of common principles which each country would embody in its national legislation in its own way and in its own style. This is the system on which the conclusions so far adopted have been based.

The method at present employed (adoption of road traffic principles in the form of conclusions) is, however, defective in two respects:

a) the conclusions are not binding on the Ministers;

b) no provision is made for any amendment procedure or for consultation on the of the principles in national legislation.

4. The first difficulty might be overcome by the conclusion of an international convention, as provided for in Article 9 of the Protocol instituting the E.C.M.T.

If road traffic rules are included in this convention they will necessarily be discussed in the various parliaments as parliamentary ratification of international conventions is required in all countries. The great majority of the experts are therefore of the opinion that it is not desirable that parliaments should have to consider a question which in each country is almost always delegated to the executive.

The possibility of a convention which made the Ministers responsible for establishing the principles to be embodied in national legislation and therefore made the decisions of Ministers binding on their governments and parliaments has not been envisaged because such a system would give rise to constitutional difficulties in several countries.

The Group of Experts, in its majority, therefore advise against the conclusion of an international convention and would prefer to maintain the system which has been followed hitherto, i.e. the adoption of conclusions in accordance with Article 9 *a*) of the Protocol. The Group nevertheless considers that it is essential to supplement this system on the following lines:

5. A flexible procedure must be laid down for the amendment of the rules adopted as the various countries will be obliged by the pressure of social and technological developments to modify their national road traffic rules in order to adapt them to new circumstances. It is obvious that once joint principles have been established these principles will have to be kept up to date by common consent.

For these reasons the Group of Experts proposes draft conclusions providing for a flexible amendment procedure. The draft conclusions also provide procedure for mutual consultation on the application of common principles in national legislation in accordance with the decision adopted by the Ministers to inform each other of any decisions taken to this effect.

As regards amendments, the draft conclusions would empower each Minister to initiate amendment procedure. He would approach the Secretary-General who would convene the Group of Experts which in its turn would have to report to the Ministers. After technical preparation the latter could then amend or supplement their previous conclusions.

The same Group of Experts would be responsible for studying any general provisions communicated to the Secretary-General and any decisions taken by the legal and administrative authorities in interpretation of the rules adopted. The

experts would then be able to formulate recommendations as to ways and means of remedying any divergencies which might result from legal or administrative decisions. These recommendations might be addressed to all Ministers and contain draft amendments to the common rules. But the recommendations might also concern only one Minister and be designed to advise him to amend and clarify his national legislation in order to prevent any interpretation differing from that of the other countries.

6. Road traffic problems are constantly changing. New types of highways, technical improvements in traffic practice and the constant increase in the number of motor vehicles make it essential for Governments to constantly adapt their road traffic legislation. Any co-ordination of road traffic rules which did not allow for the continually changing traffic situation would be illusory. National and international legislators must therefore both keep under review and anticipate developments.

Conclusions [CM/GR3(64)6 final] provide the indispensable machinery and procedure for this. These have been made as simple and informal as possible in order to ensure the continuity of uniform road traffic rules in Europe without the need for any cumbersome and expensive organisation.

PART III

REPORT BY THE COMMITTEE OF DEPUTIES ON INVESTMENT IN INLAND TRANSPORT FROM 1953 TO 1962

[*CM*(64)6 *final*]

Chapter I. INTRODUCTION

At its meeting of 5th October, 1960, the Council of Ministers of Transport approved a report by the Committee of Deputies [CM(60)12] on Member countries' investment in the transport sector from 1953 to 1958 inclusive, in continuation of a preliminary report [CM(59)5] limited to 1957 alone.

Ever since 1960, in order to keep this information up-to-date, the E.C.M.T. has each year prepared a table showing the investment devoted to each means of transport in each Member country for the previous year, distinguishing vehicles and boats from infrastructure, together with a comparison with gross national product and gross fixed capital formation (total gross investment of the country).

Since these figures now cover a sufficient period, it has been agreed to analyse them and draw any possible conclusions. This is the aim of the present report.

Chapter II. GENERAL REMARKS

1. The basic figures for this study are derived from replies to questionnaires which have been sent to the various Member countries of the E.C.M.T. in recent years by the Committee for the Co-ordination of Investment, to ascertain the amount of gross investment in inland transport, broken down into several categories.

For practical reasons, gross investment is taken to mean all expenditure actually paid out during the period in question (1953-1962) for the purchase and construction of durable means of production in the field of inland transport, whether spent on the extension, replacement or improvement of the said means of production. Routine maintenance expenditure is not included.

It would have been desirable to adopt net investment and the net national product so as to allow for depreciation, the rate of which is not the same for infrastructures and for the various types of vehicles and boats. This was prevented by the absence of valid data.

2. Investment defined in that way has been broken down among four headings:

- — main railways,
- — road transport,
- — inland waterways,
- — secondary and urban railways (other than main network, including underground railways, tramways and trolleybuses).

Moreover, total investment has been broken down into two main categories: "vehicles and boats", and "infrastructure", which includes all fixed stock. Although the questionnaire made provision for a more detailed breakdown of these factors, an analysis of replies showed that certain Member countries were not able to comply with this condition. Owing to divergences in the breakdown of investment expenditure in the national budgets, the more detailed the breakdown is the more difficult a uniform presentation becomes. It therefore seemed desirable to limit the arrangement to broader groups of investment in the attached tables.

3. Even so, there still remain certain anomalies, either in the same country from one year to another, or between the different Member countries.

It must first be stressed that the information concerning road vehicles is to be used with great caution. This group covers purchases of commercial vehicles and of private cars and motorcycles, although a portion of these last two categories will represent consumer goods. A striking feature of the country replies is the wide variation between the above categories as regards the distribution of purchases under private consumption as compared with investment. This variation suggests

that the breakdown between consumption and investment in this sector is influenced by official regulations and tax considerations rather than by purely economic factors. As it is impossible to make a rational breakdown, all expenditure on the purchase of private cars has been regarded as investment.

It should also be noted that expenditure on infrastructure development for inland waterways often serves for both navigation and other purposes. Yet in most cases, country replies prevent expenditure which is economically chargeable to navigation from being computed separately.

Finally, the figures for secondary and urban railways are not, generally speaking, very explicit. Since certain countries do not have the necessary information on this subject and other countries have not supplied them for the whole of the period under consideration, the figures seem to be of little value especially as the ratio of this type of investment to total expenditure is generally very low.

4. As requested, the investment figures for Member countries are expressed in the replies in current prices, i.e. at market prices and in the national currency. In order to make these figures comparable, a possible procedure would have been to convert them into common units by choosing one national currency as a reference. But such a comparison was not to be recommended because of the great differences of structure among Member countries of the E.C.M.T., which would have led to unjustified comparisons. The results are therefore presented in the form of relative figures and are expressed as percentages of gross fixed capital formation and the G.N.P.

The fact that investment is expressed in current prices often raises a problem. In the period under consideration, which covers 10 years, the increase in the infrastructure costs must be taken into account. In most Member countries, this increase was heavier than for vehicles and boats. It would therefore have been desirable to convert the basic figures to constant prices so as to show the real development of the economic values in question and make them comparable. Such a conversion seems very problematical, however, particularly for investment, when the item concerned does not remain unaltered at long range but is subject to continuous technical change. It is only in exceptional cases that the specific price indices essential for conversion purposes are available. Rather than calculate investments at constant prices from indices of variable accuracy and by different and sometimes questionable methods, it was thought preferable to keep to nominal values and abandon the idea of conversion.

Chapter III. PRESENTATION OF RESULTS

In the light of the above remarks, great caution should be used in interpreting comparisons between country replies.

Comparison of results is therefore limited to the following two main aspects.

- an attempt to bring to light the structure and distribution of gross investment in inland transport (see Table I),
- the trend in time of such investment and of its scale in relation to gross fixed capital formation (see Table II).

The Annex to this report also contains basic data on investment in inland transport, distributed among several amin categories, for each of the 17 Member countries of the E.C.M.T. which replied to the questionnaires, and, so far as figures have been supplied, for the period 1953-1962.

A. Structure and distribution of gross investment in inland transport

Table I gives, for each country and for the period 1953-1962 as a whole, a general view of the proportion of total investment represented by each of the categories of gross investment in inland transport.

Before any opinion is expressed on the percentages shown in the table, attention must be drawn to certain facts which might, to some extent, constitute a source of error.

1. As already pointed out, the figures for the "road vehicles" category consist partly of purchases of private cars by individuals for non-professional use and do not entirely represent expenditure on means of production. In the absence of the necessary statistics, it was not possible to separate the part to be regarded as true investment from that which represents consumer goods.

2. The generally high percentages for "vehicles and boats" compared with "infrastructure" seem to lead to the conclusion that equipment expanded much more rapidly in the period under consideration than the corresponding fixed stock. However, since the data I refer to is gross investment, it should be noted that the

life of fixed stock is generally longer than that of vehicles and boats. For this reason, the greater part of the investment in vehicles and boats is intended for replacements, i.e. the maintenance of real capital which already exists, whereas investment in infrastructure includes a far greater proportion devoted to a real extension of fixed capital. To ascertain the proportion of investment which constitutes a true increase in fixed capital, it would have been necessary to make use of the various depreciation rates for the categories in question, and these are only partially known.

The figures in Table I show that, generally speaking, vehicles and boats absorb from 70 to 75 per cent of all gross investment in inland transport. The highest percentages were recorded by the United Kingdom (92.3 per cent for the period 1953-1957 and 85 per cent for the period 1958-1962), and the lowest by Greece (43.2 per cent) and Turkey (25.3 per cent and 47.8 per cent respectively). Investment in infrastructure generally fluctuates between 25 and 40 per cent. The figures for the United Kingdom (7.7 per cent for the period 1953-1957 and 14.5 per cent for 1958-1962), and, in the second five-year period, Spain (21.9 per cent) and France (25.7 per cent) are below the average.

These results are largely explained by the fact that countries long since industrialised, such as France and the United Kingdom, already had an adequate infrastructure which until recently could be regarded as requiring no major investment. This is obviously not the case for developing countries, where extension of the infrastructure is essential and takes precedence over equipment projects.

The structure of investment is heavily influenced by road transport. This is particularly applicable to vehicles, for which the value of purchesas in all countries is distinctly higher than for other vehicles or boats. This pattern is less marked where infrastructure is concerned, although here again roads invariably chalk up the highest percentages.

The ratio between investment in vehicles and infrastructure, which is greater than unity for roads, shows the reverse tendency for railways and, where applicable, to inland waterways. With the exception of Greece and the United Kingdom, it is fixed stock which absorbs the major part of railway investment for the period 1958-1962; the proportion in total investment is particularly high in Luxembourg (15.4 per cent), France (10.6 per cent) and Germany (10.1 per cent). The figures for Greece (3.7 per cent) and Denmark (3.8 per cent) are below the average for the same period. The low figures for Denmark are especially explained by the fact that the expenditures in dieselisation are lower than expenditure in electrification. These results are explained by the scale of electrification programmes in the period under consideration, for these inflate infrastructure expenditure more than expenditure on rolling stock. As the ratio between railway rolling stock and fixed stock in the period 1953-1957 was influenced to a varying extent by repair of war damage, it has not been included.

The breakdown by percentages amont the various forms of transport given in Table I shows that, in all Member countries, the railways and inland waterways absorb a relatively small proportion of overall investment, although they account for a considerable share of current services. In both cases, investment is primarily allocated to the replacement and technical modernisation of facilities and equipment, e.g. electrification of the railways. The percentages for inland waterways are of considerable importance only in the Netherlands and Belgium, owing to the geographical characteristics of these two countries.

The share represented by road transport amounts to more than 75 per cent in all Member countries, and in some countries to more than 90 per cent of gross investment in transport. The undetermined proportion of this expenditure which represents consumer goods ought nevertheless to be deducted, as has already been mentioned. The fact remains that road transport accounts for the greater part of public and private investments in the transport sector, and that the rapid growth in numbers of motor vehicles compels governments to increase infrastructure investments.

B. Relation between investment in inland transport and gross fixed capital formation

Table II shows, country by country and for the 10 years 1953 to 1962, the contribution made by transport investments to gross fixed capital formation in Member countries. The last column of Table II gives the average of the various ratios for the full period.

It will be noted that the average percentages are generally comprised between 17 and 24 per cent, with differences upwards for Denmark

(28.3 per cent)[1] Sweden (25.9 per cent) and Ireland, and downwards for Greece (11.9 per cent), Portugal (13.5 per cent), Norway (13.9 per cent), Spain (14.6 per cent) and Italy (16 per cent). The annual figures for any one country are fairly constant.

From the figures in Table II it may be seen that the proportions in question are about 20 per cent; in other words, in the Member countries concerned, one fifth of all gross fixed capital formation relates to the transport sector, whereas all other branches of the economy use but four fifths of capital formation. On the other hand, according to the national accounts of the countries concerned, the value added in the transport sector amounts to an average of only 5 to 8 per cent of G.N.P. as against 92 to 95 per cent in the other branches of the economy.

This divergence between the role of transport in gross fixed capital transformation and in value added may be explained in various ways:

1. Investments in transport infrastructure have a particularly long life and consequently a lasting economic effect. Furthermore, owing to the long time generally required for carrying out infrastructure development, the economic action of such investments frequently does not make itself felt until several years after the investment has been entered in the accounts.

For these reasons, a comparison during the period 1953-1962 between investment of any one year with added value for the same year is vitiated by errors.

2. It has already been mentioned that part of the money spent on road vehicles is a consumer expenditure without any corresponding addition of value. This applies, for example, to all travel for convenience and for pleasure.

3. Part of the productivity increase claimed from transport investments, especially in the railways, has benefited either the staff by reducing the proportion of heavy work, or users in the form of time saved or added comfort, without any corresponding added value in the transport sector.

It may well be asked whether the fact that the product of investment in transport is not equivalent to that of other industrial sectors cannot primarily be attributed to the above reasons, with special reference to hte last two.

It should in any event be noted, that transport which is essential to economic activity, helps to increase the output and productivity of other sectors of the economy, but to an extent which cannot statistically be calculated and is not reflected in the added value of the transport sector.

1. Apart from various uncertain factors connected with the definition of the standards used for comparison, it must be pointed out, however, that in Denmark for example, and doubtlers in other countries as well the share of road transport in the domestic transport only enters into the gross national product estimations with the value of road delivery services, taxicab driving and bus services, while the value of transport on own account or similar driving is added to the productive value for the single industries.

TABLE I. STRUCTURE AND DISTRIBUTION OF INVESTMENT IN INLAND TRANSPORT

1953 *to* 1962 *inclusive as per cent.*

COUNTRY	PERIOD	INVESTMENT IN INLAND TRANSPORT (TOTAL 7 + 11 + 12)	VEHICLES AND BOATS				INFRASTRUCTURE				SECONDARY AND URBAN RAILWAYS (FIXED AND ROLLING STOCK)
			RAILWAYS	ROAD VEHICLES	INLAND WATERWAYS	TOTAL (4 + 5 + 6)	RAILWAYS	ROADS	INLAND WATERWAYS	TOTAL (8 + 9 + 10)	
1	2	3	4	5	6	7	8	9	10	11	12
Austria	1953-57	100	8.6	51.0	0.6	60.2	12.0	27.1	0.7	39.8	—
	1958-62	100	5.6	56.9	—	62.5	9.3	23.5	0.6	33.4	4.1
Belgium	1953-57	100	6.7	60.3	2.2	69.2	10.9	16.6	3.3	30.8	—
	1958-62	100	6.9	60.0	2.1	69.0	8.5	17.5	4.5	30.5	0.5
Denmark	1953-57	100	3.4	61.5	—	64.9	4.1	31.0	—	35.1	—
	1958-62	100	3.0	69.0	—	72.0	3.8	24.0	—	27.8	0.2
France	1953-57	100	6.3	52.7	0.4	59.4	9.8	29.7	0.7	40.2	0.4
	1958-62	100	6.5	67.0	0.5	74.0	10.6	13.6	1.5	25.7	0.3
Germany	1953-57	100	7.3	59.4	1.5	68.2	10.2	18.3	0.9	29.4	2.4
	1958-62	100	5.7	56.5	0.8	63.0	10.1	23.9	1.3	35.3	1.7
Greece	1953-57	—	—	—	—	—	—	—	—	—	—
	1958-62	100	4.4	38.8	—	43.2	3.7	51.9	—	55.6	1.2
Italy	1953-57	100	4.4	70.9	0.1	75.4	13.2	11.1	0.3	24.6	—
	1958-62	100	3.5	64.0	0.0	67.5	8.9	23.5	0.1	32.5	—
Luxembourg	1953-57	100	6.9	58.8	—	65.7	16.2	18.0	0.1	34.3	—
	1958-62	100	8.7	56.7	—	65.4	15.4	19.0	0.2	34.6	—
Netherlands	1953-57	100	7.7	53.1	3.4	64.2	6.8	23.4	5.6	35.8	—
	1958-62	100	3.0	57.1	4.2	64.3	4.4	23.3	7.5	35.2	0.5
Norway	1953-57	100	5.7	56.9	—	62.6	13.6	23.8	—	37.4	—
	1958-62	100	3.7	61.4	—	65.1	8.2	23.5	—	31.7	3.2
Portugal	1953-57	100	7.9	67.9	—	75.8	6.5	17.7	—	24.2	—
	1958-62	100	6.3	60.3	—	66.6	9.0	18.0	—	27.0	6.4
Spain	1953-57	100	12.2	61.9	—	74.1	8.7	17.2	—	25.9	—
	1958-62	100	5.8	71.5	—	77.3	9.8	12.1	—	21.9	0.8
Sweden	1953-57	100	5.7	66.3	—	72.0	6.1	21.9	—	28.0	—
	1958-62	100	4.0	64.6	0.0	68.6	4.0	25.8	0.0	29.8	1.6
Switzerland	1953-57	100	5.2	54.8	0.9	60.9	6.6	30.1	—	36.7	2.4
	1958-62	100	5.8	58.3	0.8	64.9	5.9	26.5	—	32.4	2.7
Turkey	1953-57	100	2.8	22.5	—	25.3	6.1	68.6	—	74.7	—
	1958-62	100	2.0	45.8	—	47.8	4.3	47.9	—	52.2	—
United Kingdom	1953-57	100	10.0	82.3	—	92.3	3.5	4.2	—	7.7	—
	1958-62	100	7.8	77.2	—	85.0	5.7	8.8	—	14.5	0.5

TABLE II. INVESTMENT IN INLAND TRANSPORT
AS PERCENTAGE OF TOTAL GROSS INVESTMENT OF EACH COUNTRY

COUNTRY	YEAR										AVERAGE 1953 TO 1962
	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	
1. Austria	10.4	22.9	27.1	23.5	21.6	22.5	23.7	21.9	19.6	20.3	21.6
2. Belgium	24.3	25.9	27.3	24.8	23.4	24.5	23.6	21.3	22.0	23.0	23.8
3. Denmark	27.2	30.7	27.5	26.9	25.7	25.9	29.7	29.6	29.8	...	28.3[1]
4. France	9.2	22.0	21.1	20.5	18.0	16.4	16.1	16.9	16.6	17.3	17.3
5. Germany	22.0	21.0	21.2	22.9	22.0	24.2	22.6	21.2	22.7	22.2	22.3
6. Greece	...	...	...	...	...	9.9	10.4	11.0	13.7	13.2	11.9[2]
7. Ireland	(22.9)	(24.5)	(24.7)	(21.6)	(22.8)	(24.8)	(24.8)	28.0	27.2	26.2	(24.8)
8. Italy	13.4	14.8	16.1	15.4	13.3	12.9	14.9	16.7	18.9	19.1	16.0
9. Luxembourg	15.8	15.6	19.4	21.9	19.6	19.6	12.9	16.3	...	...	17.6[3]
10. Netherlands	14.0	17.5	19.9	19.8	16.9	15.8	17.8	18.2	21.2	22.1	18.7
11. Norway	10.4	12.0	10.3	10.4	11.4	11.8	13.6	16.1	17.1	20.8	13.9
12. Portugal	11.1	13.3	16.4	15.6	15.0	14.4	14.5	13.9	12.6	10.6	13.5
13. Spain	...	12.0	13.6	17.4	13.8	(13.3)	14.2	17.3	...	...	14.6[4]
14. Sweden	26.3	25.4	24.7	24.3	26.3	24.6	28.3	26.4	26.0	25.7	25.9
15. Switzerland	...	19.9	19.4	18.4	18.2	20.2	19.4	20.1	19.3	21.2	19.7[5]
16. Turkey	19.5	14.4	16.7	15.4	14.7	13.0	21.9	21.9	22.7	22.4	19.4
17. United Kingdom	18.2	20.2	23.3	20.5	20.9	25.3	29.0	27.4	23.8	23.5	23.2

1. 1953 to 1961 only.
2. 1954 to 1960 only.
3. 1958 to 1962 only
4. 1953 to 1960 only.
5. 1954 to 1962 only.

ANNEXES

INVESTMENT IN INLAND TRANSPORT
GROSS FIXED CAPITAL FORMATION AND GROSS NATIONAL PRODUCT

TABLE 1. GERMANY

Millions of DM.

	1953	1954	1955	1956	1957	1958	1959	1960*	1961	1962
G.N.P.[1]	145,500	156,400	180,400	198,800	216,300	231,500	250,900	282,400	310,400	336,800
Gross fixed capital formation	29,300	32,900	40,660	44,830	46,490	50,430	57,960	67,700	77,600	85,500
1. Railways	1,050	1,021	1,502	1,946	1,903	2,081	2,039	2,222	2,743	2,910
a) Rolling stock	376	400	706	877	740	774	656	714	1,018	1,163
b) Infrastructure	674	621	796	1,069	1,163	1,307	1,383	1,508	1,725	1,747
2. Roads	5,027	5,536	6,733	7,887	7,841	9,556	10,539	11,627	14,255	15,313
a) Vehicles	4,093	4,438	5,085	5,838	5,798	6,785	7,232	8,613	9,925	10,513
b) Infrastructure	934	1,098	1,648	2,049	2,043	2,771	3,307	3,014	4,330	4,800
3. Inland waterways	173	185	203	210	226	339	271	241	333	447
a) Boats	95	111	139	137	150	168	106	90	103	138
b) Infrastructure	78	74	64	73	76	171	165	151	230	309
4. Secondary and urban railways	189	175	187	226	266	246	270	262	250	276
Investment in inland transport (1. + 2. + 3. + 4.)	6,439	6,917	8,625	10,269	10,236	12,222	13,119	14,352	17,581	18,946

1. *Source:* O.E.C.D. Statistical Bulletin.
*. Including the Saarland since 1960.

TABLE 2. AUSTRIA

Millions of schillings.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	82,970	93,240	107,620	118,010	130,820	136,190	143,230	161,350	176,060	186,600
Gross fixed capital formation[1]	14,290	18,020	24,170	24,600	27,700	28,790	31,140	36,630	41,350	42,100
1. Railways	676	1,028	1,388	929	909	1,282	1,272	1,046	931	1,183
a) Rolling stock	243	414	555	377	475	514	439	361	345	477
b) Infrastructure	433	614	833	552	434	768	833	685	586	706
2. Roads	...	3,036	5,092	4,794	5,007	4,955	5,660	6,424	6,829	7,126
a) Vehicles	...	2,100	3,700	3,200	3,200	3,397	3,936	4,638	4,815	5,143
b) Infrastructure	765	936	1,392	1,594	1,807	1,558	1,724	1,786	2,014	1,983
3. Inland waterways	40	63	72	66	68	57	47	58	49	37
a) Boats	21	32	31	31	28	—	—	—	—	—
b) Infrastructure	19	31	41	35	40	57	47	58	49	37
4. Secondary and urban railways	...	...	...	...	...	177	412	494	301	183
Investment in inland transport (1. + 2. + 3. + 4.)	(1,481)	4,127	6,552	5,789	5,984	6,471	7,391	8,022	8,110	8,529

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 3. BELGIUM

Millions of Belgian francs.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	415,019	433,045	460,929	490,155	519,666	521,950	535,884	572,165	601,191	637,166
Gross fixed capital formation[1]	64,492	70,133	74,731	84,234	92,291	85,226	94,297	106,286	113,001	119,991
1. Railways	3,192	3,298	3,740	3,631	3,180	3,375	3,933	3,211	3,757	3,886
a) Rolling stock	967	1,124	1,365	1,629	1,397	1,659	1,598	1,215	1,715	1,913
b) Infrastructure	2,225	2,174	2,375	2,002	1,783	1,716	2,335	1,996	2,042	1,973
2. Roads	11,727	13,969	15,653	16,035	16,947	16,390	17,217	17,756	19,211	21,005
a) Vehicles	9,403	11,624	12,348	12,248	12,678	12,590	12,860	13,999	15,254	16,226
b) Infrastructure	2,324	2,345	3,305	3,787	4,269	3,800	4,357	3,757	3,957	4,779
3. Inland waterways	747	879	1,035	1,221	1,476	1,003	1,019	1,533	1,717	2,531
a) Boats	307	330	376	521	606	350	430	390	510	750
b) Infrastructure	440	549	659	700	870	653	589	1,143	1,207	1,781
4. Secondary and urban railways	...	...	...	...	...	90	88	135	138	157
Investment in inland transport (1. + 2. + 3. + 4.)	15,666	18,146	20,428	20,887	21,603	20,858	22,257	22,635	24,823	27,579

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 4. DENMARK

Millions of Danish kroner.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	26,378	27,628	28,847	30,889	32,822	34,313	38,131	41,227	45,359	50,852
Gross fixed capital formation	4,495	4,812	4,626	5,044	5,548	5,922	7,160	8,045	9,230	10,575
1. Railways	91	96	90	116	112	107.0	144.9	144.1	203.1	183.0
a) Rolling stock	38	45	40	57	48	46.0	61.9	68.1	86.1	69.0
b) Infrastructure	53	51	50	59	64	61.0	83.0	76.0	117.0	114.0
2. Roads	1,130	1,383	1,181	1,240	1,313	1,420	1,975	2,230	2,544	...
a) Vehicles	746	994	749	791	873	999	1,482	1,691	1,887	2,273
b) Infrastructure	384	389	432	449	440	421	493	539	657	...
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	3.6	5.8	2.9	3.6	3.0
Investment in inland transport (1. + 2. + 3. + 4.)	1,221	1,479	1,271	1,356	1,425	1,530.6	2,125.7	2,377.0	2,750.7	...

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 5. SPAIN

Millions of pesetas.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	...	337,300	371,700	431,100	505,400	574,800	580,200	615,100	...	...
Gross fixed capital formation	...	58,800	66,700	80,400	97,600	111,400	101,800	99,700	...	...
1. Railways	1,649	1,935	2,434	2,231	2,075	2,970	2,885.2	3,239.3	3,049.6	3,506.0
a) Rolling stock	938	1,162	1,441	1,379	1,089	1,675	1,128.2	957.7	926.5	1,133.7
b) Infrastructure	711	773	993	852	986	1,295	1,757.0	2,281.6	2,123.1	2,372.3
2. Roads	4,107	5,125	6,653	11,788	11,436	11,876	11,389.7	13,858	20,997	25,615
a) Vehicles	2,669	3,660	5,128	9,755	9,405	9,952	9,638.8	11,943	17,967	22,124
b) Infrastructure	1,438	1,465	1,525	2,033	2,031	1,924	1,750.9	1,915	3,030	3,491
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	...	161.4	187.3	213.8	263.7
Investment in inland transport (1. + 2. + 3. + 4.)	5,756	7,060	9,087	14,019	13,511	14,846	14,436.3	17,284.6	24,260.4	29,384.7

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 6. FRANCE

Millions of francs.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	151,910	160,810	172,160	191,330	213,000	244,710	267,380	296,210	319,670	353,560
Gross fixed capital formation	24,760	26,790	30,620	34,600	41,420	47,050	50,830	55,240	62,390	69,360
1. Railways	782	912	984	1,004	1,008	1,365	1,527	1,664	1,760	1,848
a) Rolling stock	293	399	376	353	409	480	616	647	673	685
b) Infrastructure	489	513	608	651	599	885	911	1,017	1,087	1,163
2. Roads	...	4,926	5,407	5,956	6,338	6,193	6,447	7,466	8,350	9,866
a) Vehicles	...	3,350	3,654	4,049	4,333	5,138	5,367	6,289	6,894	8,190
b) Infrastructure	1,430	1,576	1,753	1,907	2,005	1,055	1,080	1,177	1,456	1,676
3. Inland waterways	37	34	64	83	92	139	168	171	202	232
a) Boats	14	9	22	27	29	41	57	37	43	42
b) Infrastructure	23	25	42	56	63	98	111	134	159	190
4. Secondary and urban railways	18	19	19	37	26	26	25	28	34	48
Investment in inland transport (1. + 2. + 3. + 4.)	(2,267)	5,891	6,474	7,080	7,464	7,723	8,167	9,329	10,346	11,994

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 7. GREECE

Millions of drachmas.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	50,280	58,690	66,557	77,729	83,826	87,394	90,914	97 326	109,672	117,643
Gross fixed capital formation[1]	5,895	8,686	9,757	12,043	12,443	16,165	18,745	25,225	25,570	25,862
1. Railways	...	...	...	...	...	108	302	138	226	305
a) Rolling stock	...	...	...	...	...	44	178	27	110	227
b) Infrastructure	...	...	...	...	...	64	124	111	116	78
2. Roads	...	...	...	...	...	1,485	1,574	2,614	3,232	3,086
a) Vehicles	...	...	...	...	...	611	583	894	1,491	1,550
b) Infrastructure	...	...	...	...	...	874	991	1,720	1,741	1,536
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	...	81	24	34	18
Investment in inland transport (1. + 2. + 3. + 4.)	...	...	...	...	...	1,593	1,957	2,776	3,492	3,409

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 8. IRELAND

Thousands of pounds sterling.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]								660,100	708,800	763,200
Gross fixed capital formation[2]								101,600	121,200	144,400
1. Railways								729	1,517	3,169
a) Rolling stock								359	979	2,620
b) Infrastructure								370	538	549
2. Roads								27,681	31,426	34,521
a) Vehicles								22,572	24,720	27,881
b) Infrastructure								5,109	6,706	6,640
3. Inland waterways								13	67	88
a) Boats								—	—	—
b) Infrastructure								13	67	88
4. Secondary and urban railways								...	...	...
Investment in inland transport (1. + 2. + 3. + 4.)								28,423	33,010	37,778

1 *Source:* O.E.C.D. Statistical Bulletin.
2. As published in National Income and Expenditure 1963 + value of private cars and motorcycles regarded as consumer expenditure.

TABLE 9. ITALY

Millions of liras.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	11,831,000	12,616,000	13,807,000	14,885,000	15,992,000	17,114,000	18,290,000	19,937,000	22,022,000	24,693,000
Gross fixed capital formation[1]	2,254,000	2,454,000	2,750,000	3,046,000	3,434,000	3,481,000	3,786,000	4,441,000	5,099,000	5,846,000
1. Railways	54,631	71,237	84,745	78,400	70,052	63,045	94,442	99,472	113,777	103,008
a) Rolling stock	14,813	14,006	17,169	23,950	20,160	20,634	34,662	27,931	25,139	25,244
b) Infrastructure	39,818	57,231	67,576	54,450	49,892	42,411	59,780	71,541	88,638	77,764
2. Roads	245,892	290,433	356,346	390,765	385,835	385,859	467,467	639,355	847,412	1,013,622
a) Vehicles	229,077	267,781	302,600	326,956	316,068	251,700	316,000	444,200	629,600	812,100
b) Infrastructure	16,815	22,652	53,746	63,809	69,767	134,159	151,467	195,155	217,812	201,522
3. Inland Waterways	1,697	1,529	1,266	1,321	1,925	1,097	1,209	1,145	992	1,340
a) Boats	207	214	206	249	256	196	239	325	352	700
b) Infrastructure	1,490	1,315	1,060	1,072	1,669	901	970	820	640	640
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1. + 2. + 3. + 4.)	302,220	363,199	442,357	470,486	457,812	450,001	563,118	739,972	962,181	1,117,970

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 10. LUXEMBOURG

Millions of Luxembourg francs.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	16,563	16,981	18,448	20,296	21,935	21,810	22,482	24,413	...	...
Gross fixed capital formation[1]	4,009	3,952	4,124	4,030	5,230	5,227	5,247	5,125	...	...
1. Railways	130	79	178	228	296	341	223	227	83	128
a) Rolling stock	38	17	74	38	104	109	78	114	8	54
b) Infrastructure	92	62	104	190	192	232	145	113	75	74
2. Roads	504	536	622	656	724	682	451	607	670	734
a) Vehicles	381	416	471	499	562	546	324	482	530	474
b) Infrastructure	123	120	151	157	162	136	127	125	140	260
3. Inland waterways	—	—	—	—	6	4	1.4	3	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	6	4	1.4	3	—	—
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1. + 2. + 3. + 4.)	634	615	800	884	1,026	1,027	675.4	837	753	862

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 11. NORWAY

Millions of Norwegian kroner.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	20,712	22,329	23,710	26,766	28,350	28,145	29,785	31,839	34,458	37,001
Gross fixed capital formation[1]	6,093	6,599	7,063	7,305	8,009	8,847	8,523	8,759	10,070	11,115
1. Railways	164	128	141	154	151	163	160	173	181	237
a) Rolling stock	40	42	45	47	45	72	43	43	45	83
b) Infrastructure	124	86	96	107	106	91	117	130	136	154
2. Roads	468	663	584	608	762	830	957	1,194	1,492	2,012
a) Vehicles	332	493	416	414	520	560	613	847	1,110	1,558
b) Infrastructure	136	170	168	194	242	270	344	347	382	454
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	50	40	45	51	60
Investment in inland transport (1. + 2. + 3. + 4.)	632	791	725	762	913	1,043	1,157	1,412	1,724	2,309

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 12. THE NETHERLANDS

Millions of florins.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	24,244	27,036	30,276	32,568	35,364	35,930	38,443	42,732	44,800	47,550
Gross fixed capital formation[1]	5,046	5,679	6,798	8,119	9,044	8,060	8,913	10,073	10,850	11,600
1. Railways	122	164	197	207	209	149	99	124	162	168
a) Rolling stock	57	88	123	110	98	66	29	42	75	74
b) Infrastructure	65	76	74	97	111	83	70	82	87	94
2. Roads	525	759	1,056	1,247	1,151	937	1,277	1,496	1,888	2,083
a) Vehicles	332	526	770	882	779	616	920	1,076	1,361	1,480
b) Infrastructure	193	233	286	365	372	321	357	420	527	603
3. Inland waterways	59	73	103	155	172	186	194	199	237	306
a) Boats	11	22	35	69	77	90	59	58	80	120
b) Infrastructure	48	51	68	86	95	96	135	141	157	186
4. Secondary and urban railways	...	...	...	...	...	...	13	19	9	8
Investment in inland transport (1. + 2. + 3. + 4.)	706	996	1,356	1,609	1,532	1,272	1,583	1,838	2,296	2,565

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 13. PORTUGAL

Millions of escudos.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	46,633	48,190	50,969	54,904	57,795	59,066	62,902	69,122	74,601	...
Gross fixed capital formation[1]	6,823	6,918	7,228	7,938	8,697	9,746	10,713	12,593	13,723	14,803
1. Railways	90	106	217	191	175	199	305	197	354	171
a) Rolling stock	52	69	133	91	84	90	165	65	154	34
b) Infrastructure	38	37	84	100	91	109	140	132	200	137
2. Roads	670	816	972	1,044	1,128	1,206	1,238	1,186	1,315	1,326
a) Vehicles	490	662	806	838	876	921	975	902	1,010	1,021
b) Infrastructure	180	154	166	206	252	285	263	284	305	305
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	...	12	368	66	70
Investment in inland transport (1. + 2. + 3. + 4.)	760	922	1,189	1,235	1,303	1,405	1,555	1,751	1,735	1,567

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 14. UNITED KINGDOM

Millions of pounds sterling.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	16,925	17,896	19,155	20,821	21,944	22,968	24,004	25,424	27,112	28,238
Gross fixed capital formation	2,359	2,552	2,808	3,110	3,390	3,486	3,719	4,105	4,577	4,608
1. Railways	52	62	68	89	126	135	168	148	140	114
a) Rolling stock	36	47	55	67	90	84	99	86	74	63
b) Infrastructure	16	15	13	22	36	51	69	62	66	51
2. Roads	377	454	587	550	584	746	912	971	939	960
a) Vehicles	362	437	565	519	545	686	830	884	832	830
b) Infrastructure	15	17	22	31	39	60	82	87	107	130
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1. + 2. + 3. + 4.)	429	516	655	639	710	881	1,080	1,126	1,088	1,083

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 15. SWEDEN

Millions of Swedish kroner.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	39,534	42,053	45,440	49,216	52,874	55,202	58,477	63,884	69,608	75,272
Gross fixed capital formation	8,164	8,788	9,035	9,789	10,500	11,493	12,660	14,166	15,548	16,733
1. Railways	309	260	282	266	274	274	309	322	291	295
a) Rolling stock	151	109	137	134	137	137	159	157	147	143
b) Infrastructure	158	151	145	132	137	137	150	165	144	152
2. Roads	1,836	1,970	1,953	2,117	2,487	2,551	3,174	3,328	3,659	3,996
a) Vehicles	1,337	1,517	1,473	1,585	1,878	1,840	2,194	2,311	2,662	2,939
b) Infrastructure	499	453	480	532	609	711	980	1,017	997	1,057
3. Inland waterways	—	—	—	—	—	0.8	1.6	1.0	1.2	1.7
a) Boats	—	—	—	—	—	0.2	0.8	0.2	0.4	1.0
b) Infrastructure	—	—	—	—	—	0.6	0.8	0.8	0.8	0.7
4. Secondary and urban railways	...	...	...	...	...	...	98	91	97	...
Investment in inland transport (1. + 2. + 3. + 4.)	2,145	2,230	2,235	2,383	2,761	2,825.8	3,582.6	3,742.0	4,048.2	4,292.7

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 16. SWITZERLAND

Millions of Swiss francs.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	...	25,400	27,150	29,050	30,800	31,940	33,480	36,780	41,515	46,340
Gross fixed capital formation[1]	...	5,380	6,120	7,000	7,700	7,280	7,990	8,390	10,910	12,810
1. Railways	112	125	132	145	182	196	205	220	225	268
a) Rolling stock	42	53	59	63	90	98	104	113	112	128
b) Infrastructure	70	72	73	82	92	98	101	107	113	140
2. Roads	809	902	1,013	1,117	1,165	1,181	1,283	1,401	1,833	2,390
a) Vehicles	517	583	670	739	721	712	807	1,049	1,341	1,649
b) Infrastructure	292	319	343	378	444	469	476	352	492	741
3. Inland waterways	3	7	6	10	26	25	20	15	3	10
a) Boats	3	7	6	10	26	25	20	15	3	10
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	18	38	34	18	32	68	42	49	48	49
Investment in inland transport (1. + 2. + 3. + 4.)	942	1,072	1,185	1,290	1,405	1,470	1,550	1,685	2,109	2,717

1. *Source:* O.E.C.D. Statistical Bulletin.

TABLE 17. TURKEY

Millions of Turkish pounds.

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
G.N.P.[1]	16,821	17,115	21,060	24,334	30,529	36,108	44,704	48,963	49,081	55,216
Gross fixed capital formation[1]	2,085	2,518	3,006	3,260	4,021	5.278	6,989	7,779	7,368	8,096
1. Railways	34	40	33	68	36	53	65	93	137	115
a) Rolling stock	17	18	7	20	4	11	0	10	81	45
b) Infrastructure	17	22	26	48	32	42	65	83	56	70
2. Roads	373	325	468	433	555	632	1,464	1,607	1,535	1,699
a) Vehicles	149	120	146	68	49	107	738	878	716	951
b) Infrastructure	224	205	322	365	506	525	726	729	819	748
3. Inland waterways	—	—	—	—	—	—	—	—	—	—
a) Boats	—	—	—	—	—	—	—	—	—	—
b) Infrastructure	—	—	—	—	—	—	—	—	—	—
4. Secondary and urban railways	...	...	...	...	...	...	...	...	...	...
Investment in inland transport (1. + 2. + 3. + 4.)	407	365	501	501	591	685	1,529	1,700	1,672	1,814

1. *Source:* O.E.C.D. Statistical Bulletin.

REPORT BY THE COMMITTEE OF DEPUTIES ON URBAN TRANSPORT

[*CM*(64)10 *final*]

1. On 11th June, 1963, the Council of Ministers decided that the Conference should study problems arising from the growth of private motor transport in cities. At their 18th meeting, in November 1963, the Council approved a Report by the Committee of Deputies [CM(63)20] outlining the programme of work adopted by the Study Group which had been set up to pursue this enquiry, and instructed the Deputies to proceed with the programme and to submit progress reports from time to time.

2. The Council of Ministers attached particular importance to the early study of the necessity and/or desirability of limiting the use of private cars in large towns and cities, particularly by commuters and the feasibility of applying such restrictions. The Urban Transport Group have therefore concentrated first on a preliminary study of the short-term measures for controlling traffic and this report summarises the major points that have so far emerged from their discussions. Much further study of the various aspects of this complex subject will, of course, be necessary, including consideration of the long-term measures needed to make cities suitable for the proper use of the motor car.

3. The Working Group have considered the following items from the programme of work outlined in Paper CM(63)20:

a) the prospective rate of growth of individual transport in large towns;

b) the necessity and/or desirability of trying to limit the use of individual transport in large towns, particularly by commuters;

c) the most effective means of achieving limitation, if desirable;

d) means to increase the attractiveness of public transport;

e) the need to regulate the use of road goods vehicles as part of urban transport planning.

The preliminary results of discussion on these items are set out in the following paragraphs.

Growth in number of vehicles

4. The figures which were available to the Group for some of the main cities of Austria, the Federal Republic of Germany, Ireland and the United Kingdom have been included as an Appendix.

Limitation on the use of private cars in large towns

5. The general consensus of opinion was that although complete prohibition of private cars from the centres of towns was impracticable, some measure of restraint was both necessary and feasible and had, in fact, been applied in a number of cities. This took the form of:

i) vehicle restrictions applied to limited areas (the creation of streets or zones either solely for pedestrian use or with strictly limited access to vehicles); and

ii) the restriction of the use of particular routes or areas at peak times.

6. There was general agreement, however, that the need for positive restriction could often be limited by other measures to ease the flow of traffic or to help the commuter in other ways. Some of the measures that have proved successful are:

i) traffic management techniques to make the maximum use of existing streets. These include the prohibition of parking and loading or unloading on major routes into the city during the peak

hours; prohibition of left-hand turns (right-hand turns in the United Kingdom) across the flow of traffic; greater use of one-way systems and improved systems of traffic lights;

ii) improvements of the road system in cities by ring roads, urban motorways, physical separation of streams or types of traffic; these measures are designed, not only to reduce congestion by increasing capacity, but to enable through traffic to avoid the most congested streets and areas;

iii) the provision of adequate, off-street, parking space outside urban centres (usually between 2 kms. and 5 kms.), preferably at or near terminals or stations of public transport services, so that commuters can conveniently transfer between individual and public transport;

iv) provision of good taxi services in the centres of cities as a supplement to the normal public transport system;

v) exclusion of heavy goods traffic from the city centre during the peak hours.

7. The Group recognised that the scope for the physical reconstruction of city centres on the lines describes in *ii*) above was necessarily limited in the short term and that its widespread adoption must therefore be considered as a long term measure. It was also felt that a careful balance needed to be reached between the benefits to commuter traffic of restricting the loading and unloading of goods vehicles during the peak hours and the disadvantages to commerce and industry of imposing limitations on the periods during which goods can be delivered.

Means of discouraging the use of private cars in the centres of large towns

8. One of the most effective controls on the use of private cars is by means of parking restrictions and parking charges. It is necessary to consider short term and long term parking separately. In precent conditions, if the city centre is to serve its full purpose, short term parking is often necessary and desirable for business activity and the maintenance of essential services. The problem, therefore, is how to permit such essential parking to continue while imposing restrictions on long term parking, which is normally associated with commuting by private car. The immediate problem is how to control long term parking on the streets. The following methods have been found successful in many large cities:

i) complete prohibition of parking on the main streets;

ii) strict regulation of parking on other streets generally aimed to favour short term parking as against long term parking. For example by means of "blue zone" or by use or parking meters;

iii) parking meters have the advantage that they not only allow restrictions to be fairly easily enforced but make the motorist pay for parking on the streets. It is, therefore, possible to introduce graduated fees according to zones, parking in the very central area being charged at a higher rate than in adjoining areas, or fees can be graduated to be attractive for short term parking and very expensive for long term parking;

iv) it is, however, necessary to associate with control of parking on the streets some provision for off-street parking either by public authority or by private enterprise. In general, any such off-street parking should be charged for at fully commercial rates reflecting the cost of land, buildings, operation and maintenance;

v) in many countries building laws at present require the provision of adequate parking accommodation associated with the building as a condition of planning permission for large new buildings in city centres. This has the advantage of getting parked cars off the streets but has the disadvantage of encouraging commuters to come in by car and so add to the peak hour congestion on the roads without there being any financial disincentive. For this reason the policy of requiring the provision of private parking space in such buildings is now being reconsidered in several countries with preference being given to the provision of public parking spaces at commercial rates.

9. Control of parking, although valuable, is not likely to provide a complete answer to the problem of congestion in city centres. Experience shows that commuters are not always deterred by high charges; that enforcement of parking

provisions presents difficulties and that the incidence of charges may not be wholly equitable. It is known that in some countries the application of the price mechanism to control of parking would encounter serious political and psychological objections. The main effect of controlling parking both on and off the streets is to facilitate the passage of traffic. But is is not likely of itself to contribute much to an absolute reduction in the volume of traffic unless the parking charges are very high.

Means of making public transport more attractive

10. There was general agreement that improvements in the service given by public transport undertakings have an essential part to play in reducing individual transport—particularly by commuters—in towns. It is, therefore, desirable that public transport should not be allowed to decay but should be maintained in efficient operation and, where necessary, improved.

11. In the short term bus operators can be helped to provide a more efficient, intensive and economical service by means of traffic management measures, including priority at road intersections, permitting turns across opposing traffic streams where forbidden to other vehicles or by designing one-way systemps to be of maximum advantage to the bus services. Such arrangements may need special consideration in the context of regulations governing road traffic. These, though useful short term measures are of limited effect. Greater efficiency may be gained by the provision of special tracks for the sole use of public transport, wherever practicable—reserves tracks in or beside roads for tram lines, or reserved lanes, and drawins, for buses. These, however, are longer term measures.

12. Much importance was attached to co-ordination, between forms of public transport and also between public transport enterprises and private transport. In the physical field, the sharing of terminal facilities between the different public transport undertakings, and the provision of parking accommodation for private cars at such terminals; in operation, the organisation of connecting services, through bookings, and co-ordination of fares, are practical instances. These are measures which transport undertakings must themselves concert, but Governments can discuss with and urge upon them.

13. The Group considered briefly the case for subsidising public transport in cities. It came to the following tentative conclusions:

i) whilst in some cities it has been found impossible for political reasons to make the revenue of public transport undertakings cover their operating costs, these are exceptions, and, in general, operation should be self-supporting.

ii) Extension and improvement of the public transport system are urgently needed in a number of large cities, and these will demand very large capital investments. If assistance is to be given to public transport from public funds, it is better to assist such infrastructure costs than to subsidise operating deficits.

iii) If the social and economic cost of failing to improve public transport is carefully calculated, it will be found that the economic return of such investment is good.

Regulation of the operation on goods vehicles in urban areas

14. In varying degrees, urban congestion is already leading to spontaneous developments in the re-location of road haulage depots, and of commercial premises dependent upon road transport. In some countries, private road haulage undertakings are building large lorry parks on the outskirts of towns, either to enable loads to be transferred to smaller vehicles for local distribution or to provide maintenance and off-street parking for the vehicles and facilities for rest and refreshment for the crews. This has the advantages of reducing the congestion caused by lorries parked in streets, or traversing central areas, and also avoiding noise and air pollution in residential areas. In some cities, congestion and/or loading and unloading restrictions in the centre are leading warehouses and central markets to move to the outskirts, and some large department stores to open branches in the suburbs. Legal restrictions on permitted hours for loading and unloading in congested streets or areas tend to reinforce these developments. The reconstruction of cities with areas from which motor vehicles are excluded and premises are serviced from the back or from below, is proceeding in a few cities and in some countries is accepted as a long-term planning objective. The general views are:

i) The long-term aim should be to redevelop city centres in such a way that

the servicing of buildings by road transport can be effected without causing congestion.

ii) In the interim, congestion can be alleviated by restrictive measures in city centres, combined with de-concentration of commercial activities.

iii) De-concentration implies the re-location, on the outskirts of cities, of commercial activities which generate goods transport, and need not necessarily be carried on in city centres. It does not imply de-centralisation, i.e. the decay of city centres through the progressive tranfers of commercial, cultural and social activities away from the city centres and their dispersal on the outskirts. A major object of urban transport planning should be to counteract this danger by preserving in city centres those attractions which growing congestion now threatens. This is unanimously agreed.

iv) The establishment of properly equipped lorry-parks on the outskirts of cities can also have beneficial results, and should be encouraged. In centres of tourist attraction, similar facilities for touring motor-coaches are also useful.

15. The Urban Transport Group is conscious that most of the points dealt with above will now need to be considered further in greater depth and this will form part of the Group's work programme during the next year.

APPENDIX

STATISTICS ILLUSTRATING GROWTH OF TRAFFIC IN LARGE TOWNS

I. AUSTRIA (Vienna)

Vehicle figures in thousands.

TOTAL MOTOR VEHICLES			PRIVATE CARS			PRIVATE CARS AS PERCENTAGE OF TOTAL VEHICLES	
1951	1961	PERCENTAGE INCREASE	1951	1961	PERCENTAGE INCREASE	1951	1961
71	226.3	218.7	22.9	157.8	589	32.2	69.7

NOTE. In 1951, there was one motor vehicle for every 24.8 inhabitants; in 1961, there was one motor vehicle for every 7.3 inhabitants.

II. GERMAN FEDERAL REPUBLIC

Cities with populations exceeding 100,000

Vehicle figures in thousands.

	REGISTERED MOTOR VEHICLES			REGISTERED MOTOR CARS			PRIVATE CARS AS PERCENTAGE OF TOTAL VEHICLES	
	1950	1962	PERCENTAGE INCREASE	1950	1962	PERCENTAGE INCREASE	1950	1962
W. Berlin	40	252.7	532	13.8	200.7	1,354	34.5	79.4
Hamburg	59.2	298.1	404	23.6	236.5	902	39.9	79.3
Munich	37.3	220.3	491	14.2	179.5	1,163	38.1	81.5
Other cities exceeding 100,000 pop.	403.8	2,194.9	444	157.2	1,717.2	992	38.9	78.2
Total of above	540.3	2,966	449	208.8	2,333.9	1,018	38.6	78.7

III. REPUBLIC OF IRELAND

FORECAST OF INCREASE IN NUMBERS OF PRIVATE CARS AND MOTOR CYCLES IN THE CITY AND COUNTY OF DUBLIN IN 1970 AND 1975

	1963	1970		1975	
	NUMBER	NUMBER	PERCENTAGE INCREASE	NUMBER	PERCENTAGE INCREASE OVER 1963
Private cars	66,730	123,000	84.3	186,500	179.5
Motor cycles	19,627	20,000	1.9	20,000	1.9
Total	86,357	143,000	65.5	206,500	139.1
Cars and m/cs per 1,000 population	119	190	59.7	268.1	125.3
No. of persons per private vehicle	8.4	5.2		3.7	

IV. UNITED KINGDOM

Vehicle figures in thousands.

	ESTIMATED TOTAL OF MOTOR VEHICLES IN U.K.			ESTIMATED NUMBER OF CARS IN USE			PRIVATE CARS AS PERCENTAGE OF TOTAL	
	1952	1962	PERCENTAGE INCREASE	1952	1962	PERCENTAGE INCREASE	1952	1962
London	617	1,241	101	310	793	156	50.2	63.9
Birmingham	157	309	97	83	198	139	52.9	64.1
Liverpool	69	156	126	31	89	187	44.9	57.0
Manchester	93	183	97	42	108	157	45.2	59.0
Glasgow	54	113	108	24	69	188	44.4	61.1
Total	990	2,002	102	490	1,257	157	49.5	62.8
G.-B.	4,904	10,505	114	2,508	6,556	161	51.1	62.4

NOTE. In the United Kingdom the results of a recent extensive survey of car ownership in the Greater London area are now being studied.

The area covers the whole London conurbation, with a population of 11 1/2 million. Separate figures have been obtained of *car-owning households* for both the inner part of the conurbation and the contiguous outer fringe. Actual figures for 1961, and forecast figures for 1981 are:

	1961		1981	
	TOTAL HOUSEHOLDS	CAR-OWNING HOUSEHOLDS	TOTAL HOUSEHOLDS	CAR-OWNING HOUSEHOLDS
Inner area	1,134	316	1,157	610
Outer areas	1,825	807	1,940	1,157

Put another way, in 1961, 28 % of all households in the inner area and 48 % of all households in the outer area owned cars. In 1981 the figures are expected to be 53 % in the inner area and 77 % in the outer area. (All figures in thousands.)

REPORT BY THE COMMITTEE OF DEPUTIES ON THE STANDARDIZATION OF RAILWAY ROLLING STOCK

[*CM*(64)7 *final*]

I. INTRODUCTION

1. Whereas no conclusions could be drawn from the reports on the standardization of railway rolling stock submitted in 1958, 1959 and 1960, since the figures could not be compared, Report CM(61)5 final, covering a four-year period (1957 to 1960 inclusive), for the first time enabled a fairly clear idea to be obtained of the situation.

2. After taking note of the latter report, the Council of Ministers instructed the Committee of Deputies to follow the progress made in standardizing railway rolling stock, and to present a further general report on results observed between 1961 and 1963, without however omitting from the annual report any significant data on standardization. (Resolution No. 13 of 21st November, 1961.)

3. In compliance with these instructions, the Committee of Deputies' report on investment and the trend of traffic in 1961 [CM(62)7, Chapter II, Railways] deals in paragraph 21 with the problem of standardizing diesel locomotives, and in paragraphs 24-27 reports numbers of standard and unified goods wagons and describes the work of the U.I.C.

Similarly, the Committee of Deputies' report on investment and the trend of traffic in 1962 [CM(63)16, Chapter II, Railways] gives details in paragraphs 24-27 of the standardization of diesel locomotives and goods wagons.

4. It was considered expedient to bridge the gap between the 1961-1963 report and the 1957-1960 report so that a picture could be obtained (especially in graph form) covering as long a period as possible. This could be done without difficulty for goods wagons, but a drawback in the case of diesel locomotives has been a new classification for such locomotives prepared by the O.R.E., in which technical advances and future prospects are taken into account; the classification establishes two separate categories for shunting locomotives and main-line locomotives respectively, classified by the number of driving axles and divided into sub-categories according to their adhesive weight. As this new classification was introduced on 1st January, 1964, it would not have been advisable to continue showing advances made from 1961 to 1963 under the old classification. A significant report on the standardization of diesel locomotives must presumably wait until the difficulty of changing over from the old to the new system of classification is overcome, and might moreover appropriately include a discussion of Diesel locomotives problems raised at the Council of Ministers' meeting in November 1963.

5. For these reasons, the present report deals with the standardization of goods wagons alone, whereas the report on the standardization of diesel locomotives must be postponed for at least a year.

II. GOODS WAGONS

A. General

1. It should be noted that wagons of "standard type" are built to the design of the Office for Research and Experiments and are marked / RIV / U.I.C. St, while wagons of "unified type" must meet certain minimum dimensional and maximum-load requirements and standard replacement parts must be available; they are marked / RIV / St and offer the same advantages both to users and operators as "standard type" wagons but are not built to the same design by the various railway administrations.

2. As neither the British Railways nor the Irish, Spanish and Portuguese Railways can normally purchase standard or unified types, the former because of their different clearance gauge and the latter group owing to its broader gauge track, no account has been taken of the number

of wagons owned by these countries when calculating percentages, but their railway administrations' standardization efforts are described later in Section D.3.

3. The graphs and tables accompanying the report generally show separate figures for the E.E.C. countries, the other E.C.M.T. countries, except the United Kingdom, and all countries excluding the United Kingdom, Ireland, Spain and Portugal.

Annexes I to IV give the main results, the 12 tables being only designed to provide such added details as may be desired.

B. Trend of total numbers of wagons

1. Changes in total wagon numbers over the years 1956-1963 were too small to have any effect on ratios of standard and unified wagons to the total. Whereas these wagons accounted for but 3.8 per cent of total stocks at the end of 1956 and no more than 9.5 per cent at the end of 1960, the ratio rose to 16.4 per cent at the end of 1962 and 18.9 per cent at the end of 1963.

2. At the close of 1956, only four countries possessed standard- or unified-type wagons, but by the end of 1960 such wagons were already stocked by thirteen countries, and since 1962 are found in all fourteen E.C.M.T. countries with normal track gauge and applying the international clearance gauge.

3. It may be noted when considering the figures of standard and unified type wagons owned by each railways administration (Table 6) that proportions range from 26 per cent to 38 per cent of total stocks in the case of five (Germany, Netherlands, Denmark, Greece and Switzerland).

The average proportion is 19.6 per cent for the E.E.C. countries, 16.2 per cent for the other countries and 18.9 per cent for all countries, including the fourteen E.C.M.T. countries mentioned in paragraph 2.

4. Of the total standard- and unified-type wagons owned by the fourteen administrations referred to, the Deutsche Bundesbahn alone possesses 42.5 per cent and the French Railways 23.4 per cent, or between them 66 per cent, of total wagons of the type, as shown by table 6; these are followed by the Italian Railways, with 7.5 per cent. The railways of the six E.E.C. countries alone possess about 81 per cent of all such wagons.

C. Standardization and unification of wagons belonging to the EUROP Pool

1. While the total stock of goods wagons shows no major fluctuations since 1956, the EUROP Wagon Pool rose from approximately 162,000 units at the end of 1956 to roughly 218,000 units at the end of 1963; this 35 per cent increase should be borne in mind when appraising the figures that follow.

2. Whereas the ratio of standard and unified wagons in the EUROP Pool at the end of 1956 was only 2.9 per cent and reached 25.7 per cent at the end of 1960, a fairly notable accomplishment in itself, the figure by the end of 1962 had risen to 31.5 per cent and as at the end of 1963 to 35 per cent (Table 4). For purposes of comparison it should here be pointed out that, as reported in Chapter II, Section B1, the proportion of standard and unified wagons in total stocks amounted to only 18.9 per cent at the end of 1963.

3. In view of the large number of newly delivered standard and unified wagons and the many old wagons converted to the unified type, i.e. 20,800 units in 1961, 29,200 units in 1962 and 24,200 units in 1963, making approximately 74,200 units in all, the increase in this kind of wagon in the EUROP Pool from about 50,400 to 76,200 units (a rise of 25,800 units) during the period between the end of 1960 and the end of 1963 might appear small, considering that the EUROP Pool was specifically intended to be equipped as rapidly as possible with modern and unified wagons. But it must be realised that a considerable proportion of the deliveries of standard and unified wagons is accounted for by types other than the covered and open wagons which are the only kinds at present included in the EUROP Pool [Tables 8, 9 *a*) and 9 *b*)].

D. Standardization and unification of the various railways

1. At the end of 1956, the German, French and Netherlands Railways were alone in owning wagons of the standard type, but they were joined at the end of 1958 by the railways of the three other E.E.C. countries and Austria, Denmark and Yugoslavia, and before the end of 1963 the Swiss and Greek Railways became the tenth and eleventh to fall in line. At the end of 1956, 1958 and 1960, the only railways with wagons of the unified type were those of two E.E.C. countries, Germany and Luxembourg, and of seven other countries: Austria, Denmark, Norway, Sweden, Switzerland,

Turkey and Yugoslavia. At the end of 1963, all networks, except the Luxembourg Railways, possessed unified wagons.

2. The information provided shows that throughout the period the French Railways were the owners of the largest number of standard wagons with a share at the end of 1956, 1958, 1960 and 1963 of 80, 48, 43 and 40 per cent respectively, whereas the German Railways had the largest number of wagons of the unified type, amounting to a steady 58 per cent up to the end of 1960 and rising to 69 per cent at the end of 1963.

3. The following remarks apply to the four Member countries with broad gauge track and/or which do not apply the international clearance gauge:

a) *British Railways*' future requirements of goods rolling stock will be based on a new standard design, the main feature of which will be larger capacity with a corresponding lengthening of the wheelbase, making for higher speed of operation and an improved payload ratio. British Railways have recently built 400 large covered vehicles suitable for ferry-boat service which fully accord with a U.I.C. standard type. They will serve as a standard pattern for the covered wagons to be built in future.

In addition, a few wagons are being built for various special purposes. Trials are being made with a new hopper wagon for the transport of coal, which will be the standard type for the transport of small coal to power stations and probably to certain ports and large industrial consumers. The first of the fleet of standard vehicles for a new liner train service are also being built.

British Railways are also sponsoring a design for a standard tank wagon which will be recommended to all potential users of such vehicles. It is planned to make the advantages of standardization, with maximum use of payload and capacity, available to all users. New designs and standards may be developed in the near future adding to the existing standardization of wagons carrying powdered products.

b) The only rail transport undertaking in *Ireland* is Córas Iompair Eireann (C.I.E.). C.I.E. goods wagons classifiable as standard stock consists of covered, open, flat and cattle wagons with the following capacity and dimensions:

Maximum load	12 tons
Length	16 ft 11 ins.
Wheelbase	10 ft
Wheel diameter	3 ft 1 1/2 ins.

The standard equipment used includes side buffers, centre drawhook, laminated springs and braking gear.

The C.I.E. intends to raise the payload to 20 tons and increase the length to 20 feet, with a wheelbase of 12 feet and wheel diameter of 3 feet 1 1/2 inches. Suitable springs will be used and other components will be standardized to the utmost.

c) When building covered wagons in 1958, *Portuguese Railways* followed all the U.I.C. specifications then in force, apart from the adjustment of wheels to the broad track and the use of vacuum brakes instead of compressed-air brakes.

d) As the Spanish Railways (R.E.N.F.E.) were formed by the association of various companies having different standards, they have at present wagons, buffers and couplings of various types. Since the formation of the R.E.N.F.E., attempts have been made to standardize both wagons and parts, and to adopt designs which conform to U.I.C. standards and the recommendations of the O.R.E.

E. Deliveries of goods wagons

1. Deliveries of new wagons from 1957 to 1963 [Annex 3 *a* and Tables 10-12 for additional details on 1961 to 1963] amounted annually to between 21,000 and 26,000 units (excluding the United Kingdom, Ireland, Spain and Portugal). Of the 164,300 odd wagons supplied during these years approximately 79,000 or 48 per cent were of standard type and 33,500 or 20 per cent, of unified type, which means that altogether some 68 per cent of all the new wagons delivered conformed to U.I.C. standards.

2. Annex 3 *a* also shows that the proportion of wagons of standard and unified types, which stood at 66 per cent in 1957 and at as much as 72 per cent in 1958, dropped to 63 per cent in 1959 and further to 54 per cent in 1960, but increased to 79 per cent in 1963. It is hardly surprising that the U.I.C.'s work on the unification of special wagons (to mention but double-decker flat wagons for motor vehicles and sliding-roof wagons) should have caused an increase in these percentages. For wagons of standard type alone, the percentages were 38 (1957), 63 (1958), 54 (1959), 45 (1960) and 35 (1963).

3. To these deliveries of entirely new wagons must be added older wagons modernised in the railway's own workshops, especially the German

Railways. The number of these has fluctuated fairly widely (between 5,000 and 12,000) over the period in question. In all, 68,400 wagons have been reconditioned, of which about 34,000 are of the unified type (Annex 3 *b* and Tables 1C-12 for additional details on 1961 to 1963).

4. In all, of the average total of 1,000,000 wagons, the 14 railways have in seven years received 164,300 + 68,400 = 232,700, new or reconditioned wagons. Reckoning the average life of a wagon as thirty years, normal requirements would amount to 33,300 wagons a year, or 233,000 in seven years. On average, therefore, the railways have been able to cover 100 per cent of these requirements.

5. Up to the end of 1963, EUROFIMA financed for 9 railway administrations a total of 6,778 wagons, including 4,815 standard-type, 1,723 unified-type and 240 special wagons. Of the 6,788 total, 5,163 wagons had been delivered up to the end of 1963, including 776 in 1963 itself, and 1,615 were under construction. As in previous years, the administrations were hence compelled to obtain most of their wagons through their own resources.

F. Summary

An analysis of the replies to the questionnaire (the figures in paragraphs 1 to 5 below do not include the United Kingdom, Ireland, Spain and Portugal) shows:

1. The delivery in round figures of 164,300 new wagons and 68,400 wagons reconditioned in the railway's own workshops during the seven years 1957 to 1963. These substantial deliveries represent about 100 per cent of average replacement needs, based on a rolling-stock life of 30 years.

2. As opposed to such large-scale purchases out of the railways' own funds, the financing of only 6.778 wagons by EUROFIMA.

3. An increase in the proportion of standard or unified-type wagons in total stocks from 4 per cent at the end of 1956 to 10 per cent at the end of 1960 and to 18.9 per cent at the end of 1963.

4. An increase in the EUROP Pool of the proportion of standard or unified type wagons from 3 per cent at the end of 1956 to 26 per cent at the end of 1960 and to roughly 35 per cent at the end of 1963.

5. The trend in the proportion of standard and unified-type wagons delivered, accounting for 66 per cent of deliveries in 1957 and 72 per cent in 1958, falling to 63 per cent in 1959 and 54 per cent in 1960, and increasing again to 79 per cent in 1963.

6. Considerable efforts to achieve standardization, based at least in part on U.I.C. standards, on the part of railway administrations normally prevented by technical reasons from purchasing U.I.C. standard and unified-type wagons (United Kingdom, Ireland, Spain and Portugal).

III. GENERAL LINES OF THE U.I.C.'s WORK

A. General

1. It was observed in the conclusions of Report CM(61)5 final that the number of goods wagons of standard or unified-type delivered had tended to fall since 1958 and that a further increase could not be guaranteed unless the railways extended standardization and unification to include new types.

2. In addition, the desirability of introducing special types of wagon into the EUROP Pool was considered.

3. A final consideration was to be the data from Report CM(61)5 final and the annual reports of the Council of Ministers which might in future be included in U.I.C. statistics so as to keep abreast of technical progress.

B. Studies on standardization or unification undertaken by the U.I.C. during the period 1961-1963

1. Unification: the work on the definition of wagons specialised in certain types of transport has continued with the preparation of uniform specifications for:

- three types of double-decker wagons for motor-vehicle transport, built according to different methods (this incidentally represents a limitation in the number of types rather than actual unification, but is nevertheless a first important step in this direction);
- a two-axle automatic discharge wagon with a volume of 40 cu.m. or 38 cu.m., according to whether it has a sliding roof or not.

2' Standardization: the studies concerned the preparation of sets of designs of large-capacity two-axle covered wagons and two-axle automatic-

discharge wagons. The Office for Research and Experiments (O.R.E.) has also continued trials of wagons built according to the designs chosen as a result of "the wagons of the future" competition.

C. Studies on unification or standardization initiated or envisaged

1. Unification: a new type of unified wagon—a two-axle British gauge refrigerator wagon—is to be presented for approval by the relevant Commissions. Work is also in hand on the determination of specifications for a double-decker wagon of British gauge for the transport of motor vehicles.

Finally, as mentioned below, the possible application of automatic coupling is causing present specifications for flat and refrigerator bogie wagons to be reconsidered.

2. Standardization: as also indicated below, the Office for Research and Experiments (O.R.E.) has focussed on the preparation of new designs for standard wagons adaptable to automatic coupling. With a view to promoting the adoption of such couplings, the Board of Management of the U.I.C has thus decided that as from 1st January, 1965, railway administrations should only build wagons that may be so adapted without major conversion work.

In order to enable the railway administrations to begin building such wagons without waiting for the preparation of standard drawings, the O.R.E. has compiled in a special report the various solutions already examined by several administrations.

D. Progress of the EUROP Commission's studies on the incorporation of other types of wagon in the EUROP Pool

1. A general extension of the EUROP Convention to flat or special wagons presumably cannot be envisaged in the near future. Subject to a more thorough examination by the EUROP Commission, it might be possible to consider setting up a pool of flat wagons restricted to a few of the member administrations of the EUROP Community.

2. Extension of the EUROP Convention to special wagons comes up against the following difficulties: the different railways' stocks of this type of wagon are extremely uneven and varied, use in international traffic is very irregular, and possibilities of re-use for the return journey are limited. Working from the assumption that some types of special wagon may be put into a common pool in the future, the U.I.C. is nevertheless continuing its studies on the unification of rolling stock, particularly as regards two-axle wagons equipped with a sliding roof.

E. Influence of automatic coupling on the standardization of wagons

1. Automatic coupling may influence wagon-building in two ways, in respect to:

— the ratio of the distance between end axles or bogie pivots to the overhang, which affects the possibility of coupling on sharp curves;
— the design of the frame, which must be capable of withstanding the stress of buffer impact lengthwise.

2. With regard to the first point, it was found that the distances between axles or bogie pivots and the overhang of the unified wagons covered by U.I.C. leaflet No. 571 did not have to be changed in order to fit automatic couplings, except in the case of flat and refrigerator bogie wagons. The plan is to retain the same length for the flat wagon, its width being very slightly reduced compared with that of the present standard flat wagon owing to the distance between the bogie pivots; alterations needed for the refrigerator wagon are under study.

3. With regard to the second point, the Office for Research and Experiment (O.R.E.) has undertaken to prepare new designs for the frames of all standard wagons, as studies are now sufficiently far advanced for automatic-coupling fitting specifications to be fairly well defined.

4. It should finally be mentionned that as automatic coupling is clearly of greater advantage in the case of bogie wagons (fewer couplings for the same transport capacity) the adoption of automatic coupling is likely to further the development of this type of rolling stock in preference to two-axle wagons.

F. Introduction into U.I.C. statistics of data reporting technical progress

1. In order that technical progress in rolling stock may more readily be ascertained the appropriate Commission has seen fit to introduce information into U.I.C. statistics that has been inciuded for several years in the annual reports of the Sub-Committee on Investment of E.C.M.T., as follows:

a) Wagons.

Total numbers in each of the following categories:

aa) covered wagons, *bb*) open wagons and *cc*) other wagons, including those market / RIV /, / RIV / St and / RIV / U.I.C. St

b) Orders for rolling stock through EUROFIMA;

c) Changes in rolling stock figures, with breakdown by type of wagon.

2. A further arrangement was that the number of wagons belonging to the EUROP Pool should be broken down separately according to the above-mentioned types.

IV. CONCLUSIONS

1. Progress in the standardization and unification of wagons during the period 1960-1963 has been satisfactory on the whole, particularly for the EUROP Wagon Pool.

2. The total number of standard and unified wagons delivered or reconditioned in the railways' own workshops, after declining between 1958 and 1960, has again been rising since 1960 and in 1963 amounted to 79 per cent of all wagons delivered.

3. The renewed increase in the percentage of standard and unified wagons is due to the railways' efforts to extend standardization and unification to new types, particularly special wagons.

4. U.I.C. studies are under way to determine specifications for a refrigerator wagon and a double-decker wagon, both of British gauge. Other studies consist in the preparation of new designs for standard wagons adaptable to automatic coupling. The application of automatic coupling is causing present specifications for flat and refrigerator bogie wagons to be reconsidered.

5. Examination of the type of wagon that might in future be included in the EUROP Pool alongside traditional wagons has not yet been completed. A general extension of the EUROP Convention to flat or special wagons cannot presumably be envisaged in the near future, as the different railways' stocks are extremely uneven and varied, and the use of such wagons in international traffic is very irregular.

6. The U.I.C. considered what data from Report CM(61)5 final and the E.C.M.T.'s annual reports might be included in its statistics, in order that technical progress could more readily be ascertained. It decided that, among other information, total numbers and EUROP Pool numbers of standard and unified wagons might advisably be introduced, together with orders for rolling stock through EUROFIMA and changes in rolling stock figures, with a breakdown by type of wagon.

TABLE 1. GOODS WAGONS
TOTAL NUMBERS AT 31-12-62

COUNTRY	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE
Germany	275,981	15,277	52,973
Belgium	62,890	5,538	—
France	301,600	37,350	1,135
Italy	124,808	11,880	—
Luxembourg	3,104	160	—
Netherlands	21,383	7,034	—
E.E.C. countries	789,766	77,239	54,108
Austria	32,216	402	4,160
Denmark	11,169	2,772	393
Spain	68,852	—	—
Greece	5,660	—	1,596
Ireland	11,134	—	—
Norway	10,745	—	409
Portugal	9,272	—	—
Sweden	46,325	—	5,793
Switzerland	24,732	20	5,789
Turkey	15,941	—	1,437
Yugoslavia	72,384	8,029	443
Other countries[1]	308,430	11,223	20,020
Total[1]	1,098,196	88,462	74,128
Total[2]	1,008,938	88,462	74,128

1. Excluding the United Kingdom.
2. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 2. GOODS WAGONS
TOTAL NUMBERS AT 31-12-63

COUNTRY	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE
Germany	276,700	18,916	61,611
Belgium	59,849	5,706	191
France	297,900	39,600	4,727
Italy	121,296	14,097	153
Luxembourg	2,909	160	—
Netherlands	21,665	8,150	100
E.E.C. countries	780,319	86,629	66,782
Austria	32,237	402	5,040
Denmark	12,136	3,108	90
Greece	5,579	400	1,171
Norway	10,554	—	791
Sweden	46,428	—	7,163
Switzerland	25,046	—	6,527
Turkey	16,086	—	1,433
Yugoslavia	72,232	9,116	475
Other countries[1]	220,298	13,026	22,690
Total[1]	1,000,617	99,655	89,474

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 3. GOODS WAGONS
NUMBERS IN EUROP POOL AT 31-12-62

COUNTRY	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE
Germany	80,603	2,382	29,814
Belgium	20,649	4,226	—
France	65,610	9,440	290
Italy	20,317	7,606	—
Luxembourg	1,705	160	—
Netherlands	5,150	2,405	—
E.E.C. countries	194,034	26,219	30,104
Austria	8,631	196	3,360
Denmark	2,767	2,572	—
Switzerland	8,816	—	4,936
Other countries	20,214	2,768	8,296
Total	214,248	28,987	38,400

TABLE 4. GOODS WAGONS
NUMBERS IN EUROP POOL AT 31-12-63

COUNTRY	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE
Germany	77,600	2,400	28,195
Belgium	20,188	4,204	—
France	73,431	16,477	1,091
Italy	20,046	8,760	—
Luxembourg	1,666	160	—
Netherlands	5,230	2,404	—
E.E.C. countries	198,161	34,405	29,286
Austria	9,027	190	4,346
Denmark	3,088	2,908	—
Switzerland	7,636	—	5,076
Other countries	19,751	3,098	9,422
Total	217,912	37,503	38,708

$$\frac{37{,}503 + 38{,}708}{217{,}912} \cdot 100 = 35 \text{ per cent}$$

TABLE 5. GOODS WAGONS
PERCENTAGE OF WAGONS OF STANDARD OR UNIFIED TYPE AT 31-12-62

COUNTRY	WAGONS OF STANDARD OR UNIFIED TYPE	
	AS % OF COUNTRY'S (OR COUNTRIES') STOCKS	AS % OF TOTAL STOCKS
Germany	24.7	42.0
Belgium	8.8	3.4
France	12.4	23.7
Italy	9.5	7.3
Luxembourg	5.2	0.1
Netherlands	32.9	4.3
E.E.C. countries	16.6	80.8
Austria	14.2	2.8
Denmark	28.3	2.0
Greece	28.2	1.0
Norway	3.8	0.3
Sweden	12.5	3.6
Switzerland	23.6	3.6
Turkey	8.8	0.7
Yugoslavia	11.7	5.2
Other countries	14.8	19.2
Total[1]	16.2	100.0

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 6. GOODS WAGONS
PERCENTAGE OF WAGONS OF STANDARD OR UNIFIED TYPE AT 31-12-63

COUNTRY	WAGONS OF STANDARD OR UNIFIED TYPE	
	AS % OF COUNTRY'S STOCKS	AS % OF TOTAL STOCKS
Germany	29.1	42.6
Belgium	9.9	3.1
France	14.8	23.4
Italy	11.7	7.5
Luxembourg	5.5	0.1
Netherlands	38.1	4.4
E.E.C. countries	19.6	81.1
Austria	16.9	2.8
Denmark	30.5	1.7
Greece	28.2	0.8
Norway	7.5	0.4
Sweden	15.4	3.8
Switzerland	26.1	3.5
Turkey	8.9	0.8
Yugoslavia	12.7	5.1
Other countries[1]	16.2	18.9
Total[1]	18.9	100.0

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 7. GOODS WAGONS OF STANDARD OR UNIFIED TYPE

BREAKDOWN BY MAIN TYPES AT 31-12-62

COUNTRY	STANDARD TYPE			UNIFIED TYPE		
	COVERED WAGONS	OPEN WAGONS	OTHER WAGONS	COVERED WAGONS	OPEN WAGONS	OTHER WAGONS
Germany	2,958	—	12,319	20,383	24,946	7,644
Belgium	100	4,226	1,212	—	—	—
France	13,190	10,290	13,870	1,133	2	—
Italy	3,481	6,633	1,766	—	—	—
Luxembourg	160	—	—	—	—	—
Netherlands	3,411	2,594	1,029	—	—	—
E.E.C. countries	23,300	23,743	30,196	21,516	24,948	7,644
Austria	—	402	—	1,398	2,762	—
Denmark	2,073	699	—	393	—	—
Greece	—	—	—	1,171	—	425
Norway	—	—	—	409	—	—
Sweden	—	—	—	5,680	—	113
Switzerland	—	—	20	3,185	1,998	606
Turkey	—	—	—	843	542	52
Yugoslavia	565	7,464	—	49	394	—
Other countries[1]	2,638	8,565	20	13,128	5,696	1,196
Total[1]	25,938	32,308	30,216	34,644	30,644	8,840

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 8. GOODS WAGONS OF STANDARD OR UNIFIED TYPE

BREAKDOWN BY MAIN TYPES AT 31-12-63

COUNTRY	STANDARD TYPE			UNIFIED TYPE		
	COVERED WAGONS	OPEN WAGONS	OTHER WAGONS	COVERED WAGONS	OPEN WAGONS	OTHER WAGONS
Germany	3,077	—	15,839	17,320	20,655	23,636
Belgium	100	4,298	1,308	100	91	—
France	13,190	10,290	16,120	3,911	2	814
Italy	3,907	7,807	2,383	153	—	—
Luxembourg	160	—	—	—	—	—
Netherlands	3,678	3,072	1,400	—	—	100
E.E.C. countries	24,112	25,467	37,050	21,484	20,748	24,550
Austria	—	402	—	1,997	3,043	—
Denmark	2,409	699	—	90	—	—
Greece	400	—	—	1,171	—	—
Norway	—	—	—	680	111	—
Sweden	—	—	—	6,794	—	369
Switzerland	—	—	—	3,383	2,159	985
Turkey	—	—	—	842	539	52
Yugoslavia	530	8,586	—	25	450	—
Other countries[1]	3,339	9,687	—	14,982	6,302	1,406
Total[1]	27,451	35,154	37,050	36,466	27,050	25,956

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 9*a*. GOODS WAGONS OF STANDARD OR UNIFIED TYPE
BREAKDOWN BY U.I.C. LEAFLET No 751 CATEGORIES AT 31-12-63

COUNTRY	COVERED WAGONS						OPEN WAGONS				MIXED WAGONS FLAT - OPEN	
	TYPE 1		TYPE 2		TYPE 3				FORMER TYPE 1			
	ST[1]	U[2]	ST	U	ST	U	ST	U	ST	U	ST	U
Germany	—	5,361	2,827	11,698	—	—	—	20,655	—	—	—	—
Belgium	—	—	—	—	—	100	211	—	4,087	—	—	—
France	—	1	13,190	3,910	—	—	900	2	9,390	—	—	—
Italy	—	—	3,907	153	—	—	7,807	—	—	—	—	—
Luxembourg	—	—	160	—	—	—	—	—	—	—	—	—
Netherlands	1,325	—	2,353	—	—	—	2,594	—	—	—	—	—
E.E.C. countries	1,325	5,362	22,437	15,761	—	100	11,512	20,657	13,477	—	—	—
Austria	—	599	—	1,398	—	—	202	3,043	—	—	—	—
Denmark	—	—	2,409	—	—	—	499	—	—	—	—	—
Greece	—	—	—	1,171	—	—	—	—	—	—	—	—
Norway	—	119	—	561	—	—	—	—	—	—	—	111
Sweden	—	2,530	—	3,875	—	100	—	—	—	—	—	—
Switzerland	—	1	—	3,382	—	—	—	2,159	—	—	—	—
Turkey	—	—	—	842	—	—	—	539	—	450	—	—
Yugoslavia	530	25	—	—	—	—	8,586	451	—	—	—	—
Other countries[3]	530	3,274	2,409	11,229	—	100	9,287	5,741	—	450	—	111
Total[3]	1,855	8,636	24,846	26,990	—	200	20,799	26,398	13,477	450	—	111

1. Standard.
2. Unified.
3. Excluding the United Kingdom, Ireland, Spain, and Portugal.

TABLE 9*b*. GOODS WAGONS OF STANDARD OR UNIFIED TYPE
BREAKDOWN BY U.I.C. LEAFLET No 571 CATEGORIES AT 31-12-63

COUNTRY	FLAT BOGIE WAGONS				REFRIGERATOR AND INSULATED WAGONS		AUTOMATIC DISCHARGE WAGONS		SLIDING-ROOF WAGONS		DOUBLE-DECKER WAGONS FOR MOTOR-VEHICLE TRANSPORT	
	ST[1]	U[2]	ST	U	ST	U	ST	U	ST	U	ST	U
Germany	10,449	6,893	4,562	—	250	261	828	5,831	—	8,175	—	2,737
Belgium	1,158	—	150	—	100	—	—	91	—	—	—	—
France	10,640	814	800	—	600	—	—	—	4,080	—	—	—
Italy	106	—	260	—	2,017	—	—	—	—	—	—	—
Luxembourg	—	—	—	—	—	—	—	—	—	—	—	—
Netherlands	398	—	80	—	300	—	1,100	100	—	—	—	—
E.E.C. countries	22,751	7,707	5,852	—	3,267	261	1,928	6,022	4,080	8,175	—	2,737
Austria	200	—	—	—	—	—	—	—	—	—	—	—
Denmark	200	—	—	—	—	—	—	—	—	90	—	—
Greece	—	—	—	—	400	—	—	—	—	—	—	—
Norway	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	—	369	—	—	—	200	—	—	—	89	—	—
Switzerland	—	799	—	166	20	—	—	—	—	—	—	—
Yugoslavia	—	—	—	—	—	—	—	—	—	—	—	—
Turkey	—	—	—	—	—	52	—	—	—	—	—	—
Other countries[3]	400	1,168	—	166	420	252	—	—	—	179	—	—
Total[3]	23,151	8,875	5,852	166	3,687	513	1,928	6,022	4,080	8,354	—	2,737

1. Standard.
2. Unified.
3. Excluding the United Kingdom, Ireland, Spain, and Portugal.

Table 10. GOODS WAGONS
Deliveries in 1961

COUNTRY	NEW WAGONS			CONVERTED WAGONS	
	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE	TOTAL NUMBER	UNIFIED TYPE
Germany	11,510	3,831	1,479	9,374	6,466
Belgium	130	105	—	852	—
France	5,940	4,881	444	1,430	—
Italy	1,865	1,851	—	1,091	—
Luxembourg	—	—	—	—	—
Netherlands	1,089	—	500	—	—
E.E.C. countries	20,534	10,668	2,423	12,747	6,466
Austria	525	—	—	583	—
Denmark	420	420	—	—	—
Spain	1,718	—	—	—	—
Greece	—	—	—	—	—
Norway	178	—	158	120	—
Sweden	2,161	—	785	—	—
Switzerland	1,044	—	832	—	—
Turkey	96	—	—	—	—
Yugoslavia	881	835	31	—	—
Other countries	7,023	1,255	1,806	703	—
Total[1]	27,557	11,923	4,229	13,450	6,466
Total[2]	25,839	11,923	4,229	13,450	6,466

1. Excluding the United Kingdom and Ireland.
2. Excluding the United kingdom, Ireland, Spain and Portugal.

Table 11. GOODS WAGONS
Deliveries in 1962

COUNTRY	NEW WAGONS			CONVERTED WAGONS	
	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE	TOTAL NUMBER	UNIFIED TYPE
Germany	12,256	4,010	5,010	11,319	10,883
Belgium	1,178	986	—	195	—
France	6,052	4,664	689	940	—
Italy	1,299	1,039	—	1,591	—
Luxembourg	51	—	—	2	—
Netherlands	1,143	942	—	—	—
E.E.C. countries	21,979	11,641	5,699	14,047	10,883
Austria	352	2	—	721	202
Denmark	472	370	50	—	—
Spain	1,069	—	—	—	—
Greece	200	—	200	—	—
Ireland	265	—	—	—	—
Norway	104	—	49	83	—
Portugal	—	—	—	—	—
Sweden	1,868	—	1,233	—	—
Switzerland	600	—	373	—	—
Turkey	150	—	—	—	—
Yugoslavia	985	180	805	—	—
Other countries	6,065	552	2,710	804	202
Total[1]	28,044	12,193	8,409	14,851	11,085
Total[2]	26,710	12,193	8,409	14,851	11,085

1. Excluding the United Kingdom.
2. Excluding the United Kingdom, Ireland, Spain and Portugal.

TABLE 12. GOODS WAGONS
DELIVERIES IN 1963

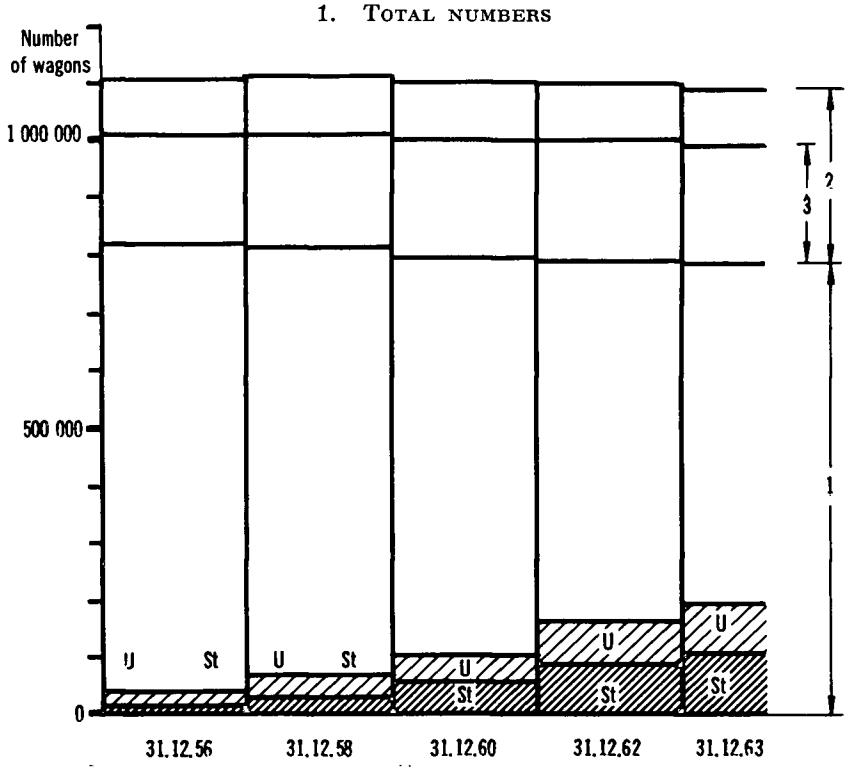
COUNTRY	NEW WAGONS			CONVERTED WAGONS	
	TOTAL NUMBER	STANDARD TYPE	UNIFIED TYPE	TOTAL NUMBER	UNIFIED TYPE
Germany	7,346	2,681	2,580	9,351	9,351
Belgium	451	210	91	6	—
France	5,540	551	3,598	1,306	—
Italy	2,806	2,457	53	220	—
Luxembourg	23	—	—	—	—
Netherlands	1,114	1,018	—	—	—
E.E.C. countries	17,280	6,917	6,322	10,883	9,351
Austria	299	—	—	565	322
Denmark	543	336	207	256	—
Greece	200	200	—	—	—
Norway	381	—	381	8	—
Sweden	1,515	—	1,372	—	—
Switzerland	857	—	720	—	—
Turkey	348	—	—	—	—
Yugoslavia	1,163	1,100	63	—	—
Other countries[1]	5,306	1,636	2,743	829	322
Total[1]	22,586	8,553	9,065	11,712	9,673

1. Excluding the United Kingdom, Ireland, Spain and Portugal.

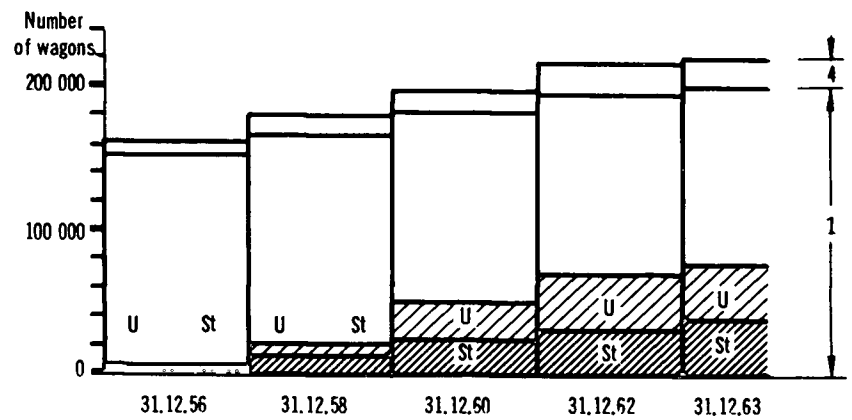
Annex 1

GOODS WAGONS

1. TOTAL NUMBERS



2. NUMBERS IN EUROP POOL



Key : 1. EEC countries.
2. Other countries (excluding the United Kingdom).
3. Other countries (excluding the United Kingdom, Ireland, Spain and Portugal).
4. Austria, Denmark and Switzerland.

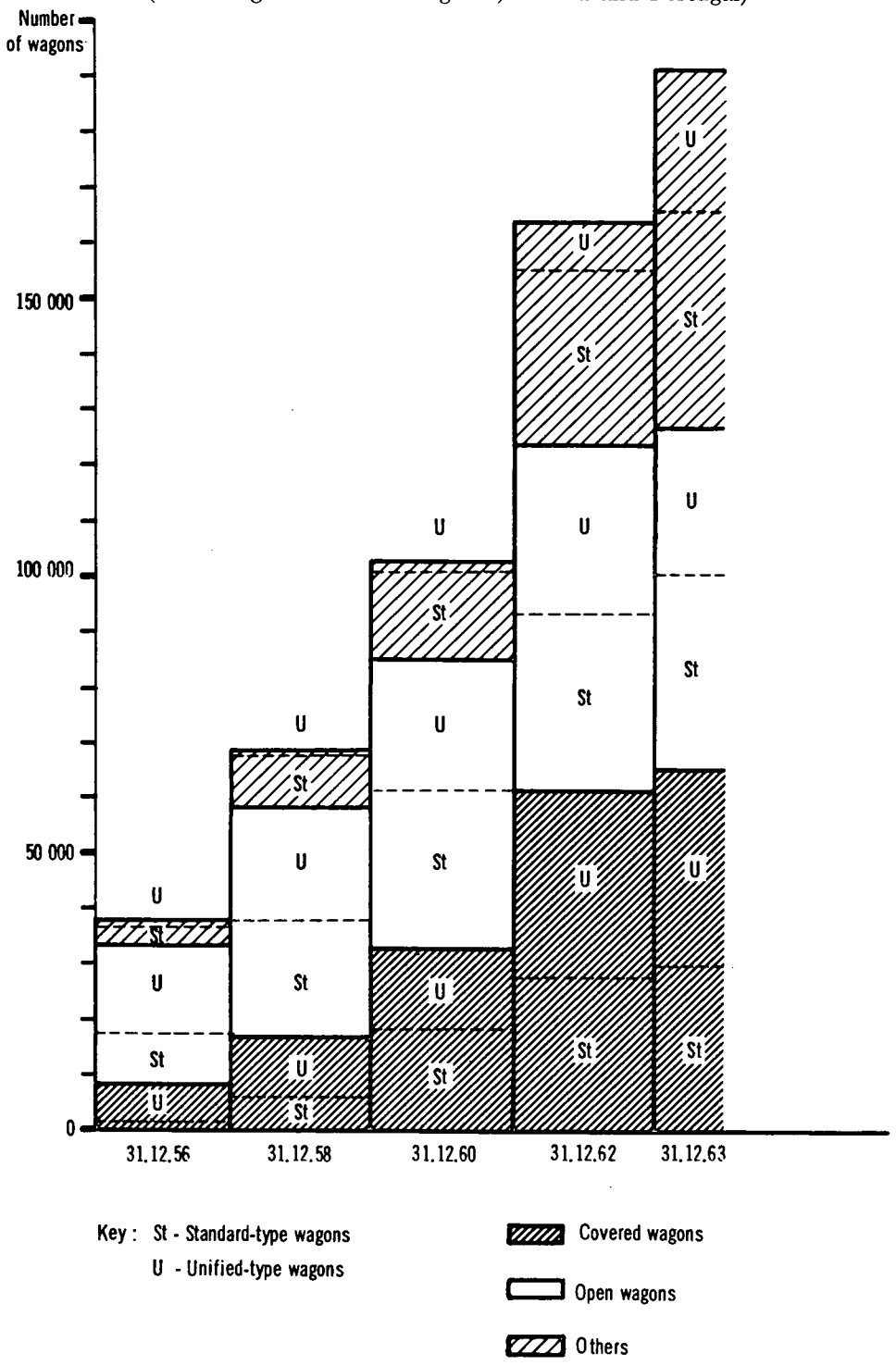
St Standard type wagons

U Unified type wagons

Annex 2

GOOD WAGONS OF STANDARD AND UNIFIED TYPES

NUMBERS ON COVERED WAGONS, OPEN WAGONS AND OTHERS
(Excluding the United Kingdom, Ireland and Portugal)

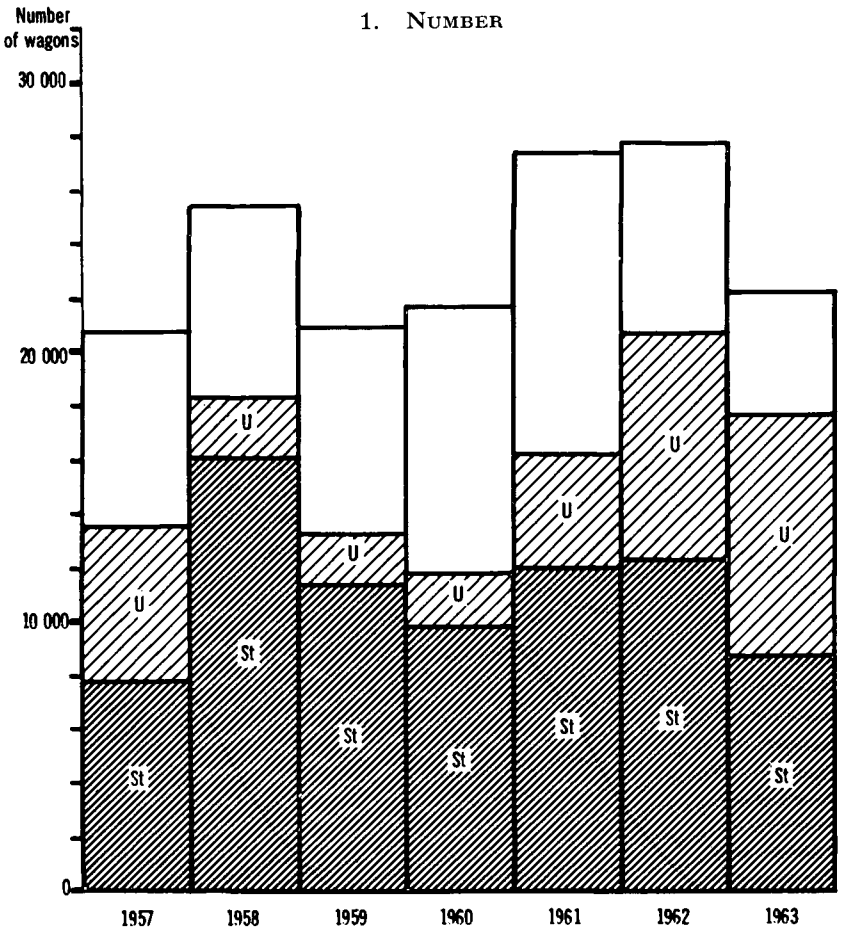


Annex 3a

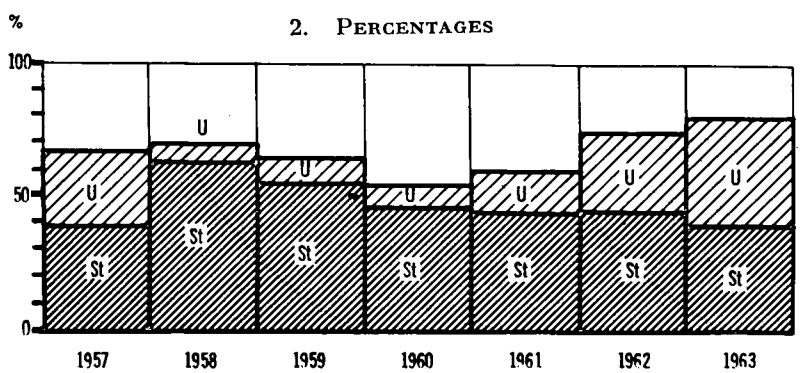
NEW GOODS WAGONS

DELIVERIES 1957-1963
(Excluding the United Kingdom, Ireland, Spain and Portugal)

1. NUMBER



2. PERCENTAGES



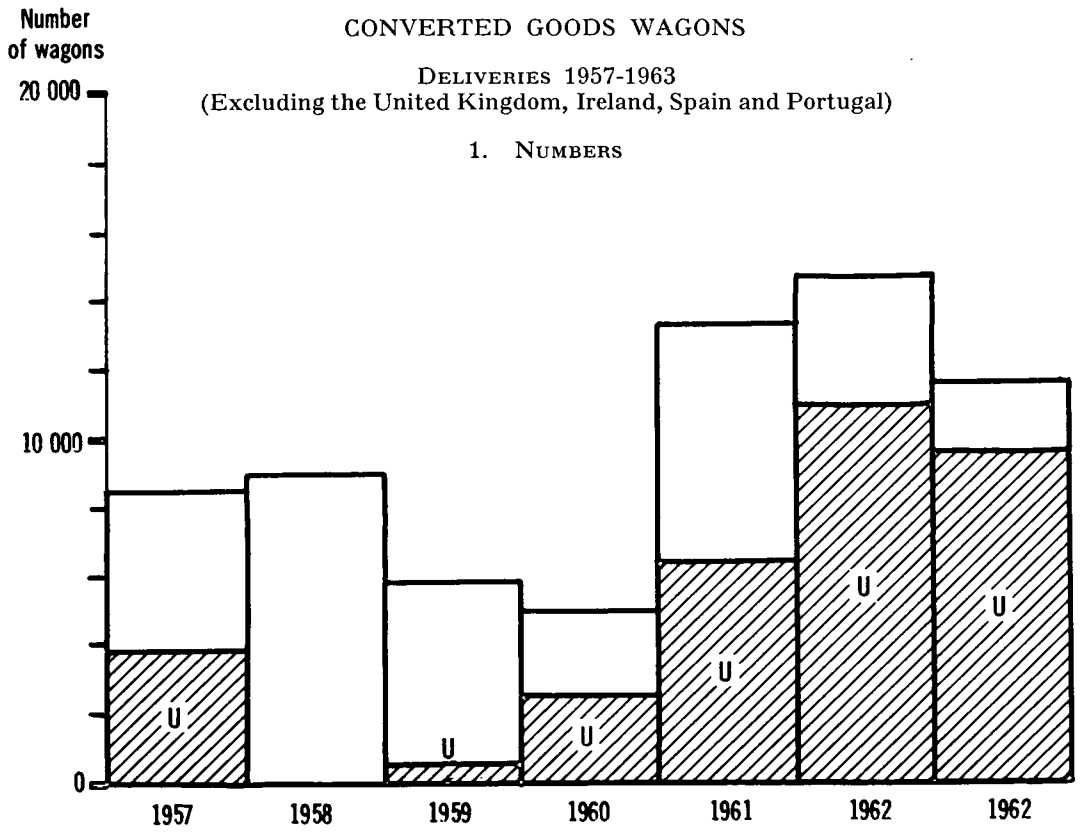
Key : St Standard type wagons U Unified type wagons

Annex 3b

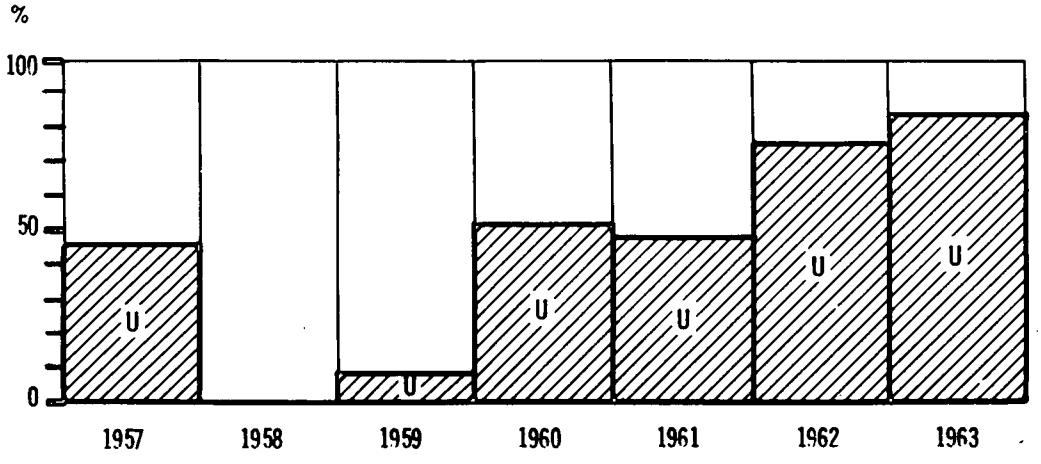
CONVERTED GOODS WAGONS

DELIVERIES 1957-1963
(Excluding the United Kingdom, Ireland, Spain and Portugal)

1. NUMBERS



2. PERCENTAGES

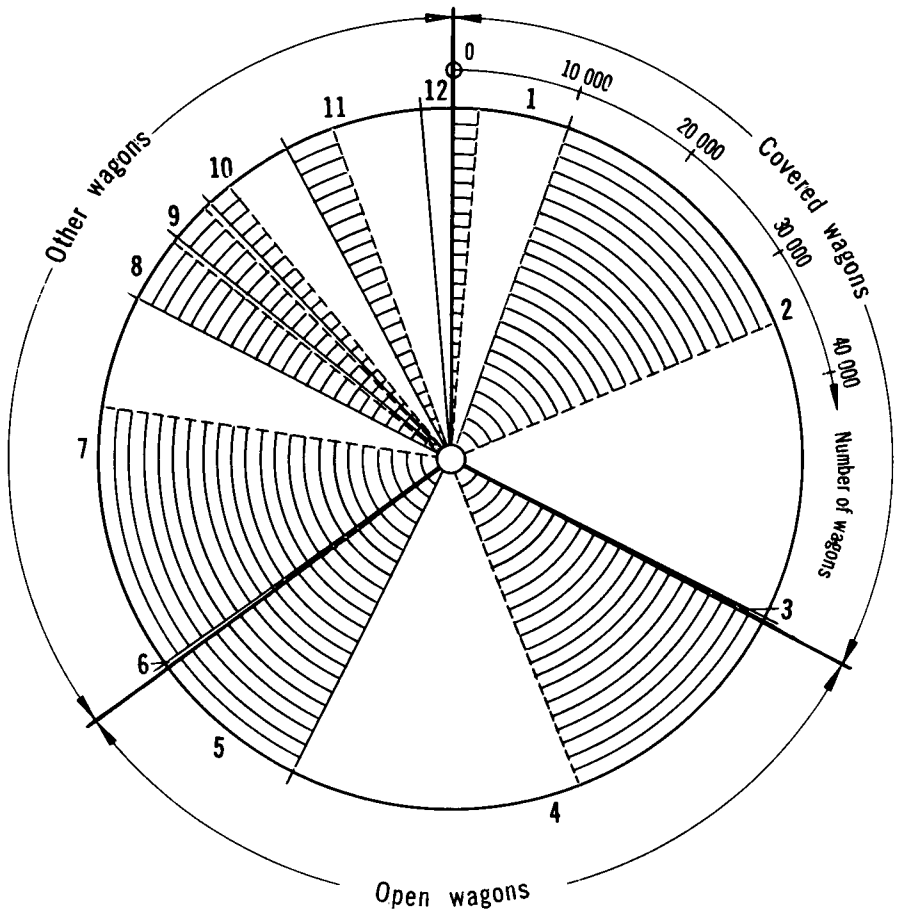


Key : U Unified type wagons

Annex 4

GOODS WAGONS OF STANDARDS AND UNIFIED TYPES

BREAKDOWN BY U.I.C. LEAFLET No. 571 AT 31-12-63



Standard type wagons Unified type wagons

Wagons		No. of the diagramme	Number of railway administrations owning the wagons of standard type	of unified type
Covered wagons, type 1		1	2	7
" " " 2		2	6	9
" " " 3		3	-	2
Open wagons		4	7	5
" " former type 1		5	2	1
Other wagons	Mixed flat-open wagons	6	-	1
	flat "	7	7	4
	bogie "	8	5	1
	Refrig. and insulated wagons	9	7	3
	Automatic discharge wagons	10	2	3
	Sliding roof wagons	11	1	3
	Double-decker wagons for car transport	12	-	1

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SUPPLEMENTARY REPORT BY THE COMMITTEE OF DEPUTIES ON MEASURES TO REDUCE NOISE CAUSED BY SURFACE TRANSPORT

[*CM*(64)17]

I

The necessary contacts with the international organisations have been made, on the lines indicated in the report CM(63)19, to implement Resolution No 14 of the Council of Ministers of Transport dated 26th November, 1963, concerning the reduction of town traffic noise. Their attention has been drawn to that Resolution, which recommends that the Member countries should:

1. adopt a uniform and internationally recognised method of measuring the noise made by motor vehicles and ensure that it is used when vehicles are officially inspected;
2. define maximum permissible noise level in accordance with the standardization recommended by the E.C.M.T., if this has not already been done;
3. conduct any studies needed in connection with the reduction of town traffic noise.

The following organisations have so far replied:

— International Organisation for Standardization (I.S.O.),
— International Union of Railways (U.I.C.),
— Office for Research and Experiment (O.R.E) (affiliated to the U.I.C.),
— International Union of Public Transport (U.I.T.P.),
— International Road Transport Union (I.R.U.),
— International Union for Inland Navigation (U.I.N.F.),
— International Association against Noise,
— Osterreichischer Arbeitsring für Lärmbekämpfung (O.A.L.), member of that Association.

II

As far as *the adoption of a uniform method of measurement* is concerned, the Secretary-General of the I.S.O. stated on 31st March, 1964, that the Council of the I.S.O. had decided finally to accept, as a Recommendation of the I.S.O., its draft Recommendation No 419 (document 43 N 307). The draft was adopted by twelve votes to nil. Only two Member countries (Argentina and Brazil) did not vote within the prescribed period. The new I.S.O. Recommendation is recorded under reference I.S.O./R 362-1964 "Measurement of Noise of Vehicles".

To give effect to E.C.M.T. Resolution No 14, it is therefore proposed that the method of noise measurement now definitely fixed for motor vehicles should be introduced as a requirement in the Member countries by legislation or regulation, so that it may be used at official inspections either for approval of a type of vehicle or for subsequent checks of individual vehicles.

The Delegate for the United Kingdom has made the reservation that, although the I.S.O. method may in many respects appear satisfactory, its application to a category of motor vehicles would first have to be made as an experiment, the results of which could be examined after a few years' practical experience.

The Swiss Delegate has made the reservation that Switzerland cannot for the time being consider introducing the I.S.O. method, as the change-over would hamper the progress being made by the present method.

The O.R.E. has not yet given details of the method of measurement for vehicles on rails (locomotives, tramways, railway coaches and wagons). It is known, however, that the O.R.E. has recommended a method of measuring the noise level of locomotives and that it decided

at its June 1964, session to consider the question of a standardized method of measurement along the lines of the I.S.O. Recommendation.

As far as the method of measurement (internal and external) for inland waterway craft is concerned, the U.I.N.F. has not yet been able to give precise indications. Under the laws and regulations of the Federal Republic of Germany, and of Switzerland and Austria, however, the external noise of such craft has to be measured at a distance of 25 metres while they are under way. The Member countries have not yet reported on methods of measuring noise inside craft and from their sound signals.

III

On the question of maximum permissible noise levels, it will be recommended that a start be made by considering whether, in laws and regulations generally, such levels could be laid down in dBA and not in Phons.

Information is given below on noise levels of various means of transport:

Motor vehicles

A. Maximum permissible noise levels for motor vehicles have already been fixed by the State in ten Member countries of the E.C.M.T. In the United Kingdom, a draft regulation has been issued for this purpose. Sweden intends to apply E.C.E. Geneva standards as soon as they are finally determined. *Annex A* contains a synoptic table of the noise levels in eleven Member countries. Unification of the regulations in those countries should thus be one of the first steps taken, taking technical progress and medical considerations into account. This unification should apply not only to the maximum permissible noise level for new vehicles but also to the tolerances to be given to vehicles in use due to engine wear.

B. The following measures, already mentioned in the report by the Committee of Deputies [CM(63)19, Section II B], should be taken into consideration in order that the maximum noise levels adopted in Member countries may be enforced as soon as possible:

a) the certificate of roadworthiness for the type of vehicle or individual vehicle should mention its measured noise level[1];

b) adequate administrative regulations should be introduced to ensure strict observance of that noise level, for instance:

1. Extension of existing inspection arrangements to cover noise.
2. Simplified checking procedure (e.g., official approval of silencers) to prevent alterations to vehicles.
3. Care that devices to reduce the noise made by a vehicle (e.g., exhaust or intake silencer) shall constantly conform to the types approved on acceptance of the vehicle or, if replaced, shall conform to a type approved for the same category of vehicles.
4. Stricter measures concerning unauthorised alterations to a vehicle, with possibility of withdrawing the certificate of roadworthiness.

Rail vehicles

The O.R.E. has indicated that it has not yet studied the question of fixing maximum noise levels for locomotives, but that it will be possible, to make proposals as a result of studies and trials now going on.

Maximum levels are however being applied in practice by the Austrian Federal Railways since certain noise standards for the operation of railway rolling stock are laid down when the vehicles are built and order are placed with the builders (see *Annex C*).

Inland waterway navigation

The U.I.N.F. has given no new information concerning inland waterway navigation.

It has however been noted that certain regulations are in force for the Austrian lakes, for navigation on the Rhine and in Belgium. Recommendations are also in force for the Swiss lakes (see *Annex C*).

IV

To conduct the studies required for *progressive reduction of town traffic noise* it would seem to be important to begin by finding out to what extent the increased concentration of traffic causes noise to increase at crucial points, in residential areas, near schools, hospitals, etc.

An appropriate method might be to draw up "noise maps"; for this to be done it is essential that town noise be systematically measured.

1. Certain Deleagations raised objections to this, owing to administrative difficulties.

It is therefore proposed that each Member country be good enough to consider the possibility of making arrangements to conduct an inquiry, at first on a trial basis and if possible by uniform method, into traffic noise in at least one of its large towns, and to draw up noise maps. The A.I.C.B. should first of all propose to the E.C.M.T. a uniform method of preparing such maps.

It might be possible, however, without waiting the rather long time needed to prepare such maps, to discuss other administrative measures to reduce noise.

With reference to a statement made by the representative of the International Permanent Bureau of Motor Manufacturers (I.P.B.M.M.) at the 16th session of the Working Party on the Construction of Vehicles at Geneva[1], special attention should be given to any measures—possibly fiscal[2] —which might discourage manufacturers from building engines liable by their very nature to cause excessive noise.

It would also be useful to take due account of the need to reduce noise when placing official orders for transport equipment. To this end, contact should first be made with the departments concerned. It might also be possible to approach motor vehicle builders to encourage the development of less noisy vehicles (especially motorcycles and mopeds).

Lastly, consideration might be given to setting up noise abatement services in towns, within the police forces. Experience gained, particularly in Switzerland, has shown that such services are very effective in reducing the noise of town traffic.

1. See E.C.E. document TRANS/SC1/176 - Trans/WP29-60, pragraph 75.

2. The Italian Delegation entered a reservation against this phrase.

ANNEX A

MAXIMUM PERMISSIBLE NOISE LEVELS FOR MOTOR VEHICLES (EXTERNAL NOISE)

COUNTRY	UNIT OF MEASUREMENT	PASSENGER MOTOR CARS	LORRIES		MOTOR CYCLES				MOPEDS ⩽ 50 cc	CYCLES WITH AUXILIARY ENGINE ⩽ 50 cc
			⩽ 3 1/2 TONS	> 3 1/2 TONS	2-STROKE ⩽ 150 cc	2-STROKE > 150 cc	4-STROKE ⩽ 150 cc	4-STROKE > 150 cc		
1. Austria	DINPhon	85	85	90	85		90		80	
2. Belgium	dB(A)	83	83	88	86		80	86	76	
3. Denmark	dB(A)	82/85 (1)	85	90		90			73/79 (1)	
4. Federal Republic of Germany	DINPhon	82	87		80	82	80	82	75	
5. France	dB(A)	83	83	90		80/86 (1)			76	
6. Greece	dB	83	83	90		86			80	
7. Italie	dB	88/(86) (2)/90/(88) (3) 93/(91) (4)	93 (91)		87/(85) (5)	92/(90) (6)	90/(88) (5)	92/(90) (6)	83 (81)	
8. Luxembourg	Phon	85	85			80 (7)/85 (8)			75	
9. Netherlands	dB	85	85			85			85	
10. Switzerland	dB(B)	Petrol:80 (9)/85 (10) Diesel: 85	P.: 80 (9)/85 (10) B.:85 D.: 85	D.: 90	82	85	85	90	70	75
11. United Kingdom	dB(A)	85	85			90			90	

NOTES:
— Denmark: (1) Two maximum levels.
— France: (1) Two maximum levels.
— Italy: Figures in brackets indicate new vehicles (2) ⩽ 1,000 cc (3) > 1,000 cc ⩽ 1,500 cc (4) > 1,500 cc (5) ⩽ 200 cc (6) > 200 cc
— Luxembourg: (7) ⩽ 250 cc (8) > 250 cc.
— Switzerland: (9) ⩽ 60 h.p. (SAE) (10) > 60 h.p. (SAE).

ANNEX B

NOISE OF MOTOR VEHICLES

MAXIMUM NOISE LEVELS (FOR NEW VEHICLES) PROVISIONALLY ENVISAGED BY THE E.C.E. WORKING PARTY ON THE CONSTRUCTION OF VEHICLES

2-WHEELED VEHICLES	dB	3-WHEELED VEHICLES	dB	4-WHEELED VEHICLES	dB
Mopeds (50 cc)	75	Motor 2 stroke (petrol):		Cars:	
Motor-cycles:		Capacity ⩽ 50 cc	80	Capacity ⩽ 1.000 cc	85
Motor 2 stroke:		» > 50 cc	86	» ⩽ 2,500 cc	84
Capacity ⩽ 125 cc	82	Motor 4 stroke (petrol):		» > 2,500 cc	85
» ⩽ 200 cc	85	Capacity ⩽ 50 cc	80	Goods vehicles:	
» > 200 cc	86	» > 50 cc	86	Maximum permitted:	
Motor 4 stroke:		Diesel	88	weight ⩽ 3.5 tons	85
Capacity ⩽ 125 cc	83			» 3.5 tons-12 tons	88
» 125 cc-500 cc	86			» > 12 tons	90
» > 500 cc	88			Buses, coaches:	
				Maximum permitted:	
				weight ⩽ 5 tons + 12 tons	86
				» > 5 tons	88

ANNEX C

MAXIMUM PERMISSIBLE NOISE LEVELS FOR RAIL VEHICLES AND INLAND WATERWAY CRAFT

Rail vehicles

COUNTRY	UNIT OF MEASUREMENT	DIESEL LOCOMOTIVES	ELECTRIC LOCOMOTIVES	TRAMWAYS
Austria	dB	90	90	·82

Inland waterway craft

	UNIT OF MEASUREMENT	CRAFT (EXTERNAL)[1]	INTERNAL	SOUND SIGNALS ON BOARD	
				MIN.	MAX.
Austrian waters	Phon	Normal speed 70		85	95
Swiss waters	dB B	Normal speed 72			
Austrian reaches of Danube	DINPhon	Normal upstream speed 82			
Rhine (German craft)					

1. Measured at 25 metres distance laterally.

REPORT OF THE COMMITTEE OF DEPUTIES ON INFORMATION TO BE GIVEN TO DRIVERS OF VEHICLES ON THE HIGHWAY CODE OF FOREIGN COUNTRIES IN WHICH THEY ARE TRAVELLING

[*CM*(64)14]

I. 1. Terms of Reference

At its 17th session, held in Brussels on 11th and 12th June, 1963, the Council of Ministers took note of the programme of action to improve road safety and instructed the Committee of Deputies to determine what order of priority should be given to the questions proposed for study. These include, under item C-5 in the programme [CM(63)22 (Revised)], the information to be given to drivers of motor vehicles on the Highway Code of foreign countries in which they are travelling. The report to be submitted to the Council of Ministers on this item is scheduled for the second half of 1964.

2. *Background*

a) International traffic, commercial and tourist, is steadily increasing.

b) Notwithstanding the Convention on Road Traffic and the Protocol on Road Signs and Signals of 1949, there are still fairly wide differences in the national regulations in respect of certain traffic rules and road signs.

c) Although it is to be hoped that countries will make all necessary efforts to conform to the standardized Highway Code prepared by the E.C.M.T., it will still take a fairly long time before all the countries concerned can adapt their highway codes to the standardized version. Even after this comes into force, particularities will inevitably subsist in certain countries or regions, arising, for instance, from the topography, the prevailing types of vehicles (motor-cars, motor-cycles, bicycles), etc.

d) To allow for these differences, make the road safer and foreign visitors feel at home, the official authorities and private organisations concerned with motoring, tourism and road safety might include in their publicity, information for the convenience of drivers travelling in other countries than their own.

II. Substance of the information

a) The information to be given to foreign drivers should be limited to the special features of the national Highway Code which are of real importance for their driving performance, in relation to normal traffic flow and the safety of road users in general.

In any event, there is no need to include traffic rules and road signs which are common to the majority of countries. This is also made clear in the opinioms expressed by the "Prévention Routière Internationale" (P.R.I.) and the World Touring and Automobile Association (O.T.A.).

b) The information should cover, inter alia, special traffic rules for mountain roads, special conditions applicable to certain sections of motor-ways, speed limits in built-up areas, the meaning of certain road signs, special rules governing cycle traffic in certain countries, etc.

c) Wherever possible, drawings should be used to illustrate the special features included, as drivers can usually memorise a picture more easily than a long screed. By the same token, explanations or comments accompanying the drawings should be as short as possible.

III. How to provide information for drivers

In addition to the general possibilities of information via the press radio and television, which are not treated in detail in this report, two alternatives are considered, namely:

— printed matter for distribution to drivers;
— posters and hoardings.

1. Generally speaking, there is a marked preference for printed matter distributed to drivers. This will give them the opportunity of reading the material carefully before starting out, and of re-reading and digesting it when they stop on the way, as the material will remain in their possession.

2. In addition to handouts of printed matter, the use of posters and hoardings is of real value.

a) Posters

Posters will, however, have a limited part to play. Their chief purpose will be to attract the driver's attention briefly before he sets out to the information handouts available, and to the utility of obtaining and studying them. One rule or special sign might, however, appear on the poster as an example.

b) *Hoardings*

The purpose of hoardings strategically placed along the highway is to warn drivers during their journey of any special conditions they would encounter. An example was given by the Federal Republic of Germany. A hoarding erected near the frontier warns motorists entering Germany that there is a speed limit of 50 km. an hour in all built-up areas. The German Delegation considers that these hoardings have proved effective.

IV. Should printed matter be issued in one or more languages ?

There are two sides to this question:

1. For the convenience of drivers, any document handed to them must be as brief as possible, for eady reading. The use of a separate language for each document has therefore certain advantages.

2. On the other hand, considering how the document is to be distributed, there would be some difficulty in storing and distributing information issued by any one country in four or five separate languages.

English, French, German, Italian and Spanish are suggested as the most suitable languages.

Furthermore, the language or languages to be chosen for inclusion in the same document would depend on the languages spoken in neighbouring countries. As an example: the Federal Republic of Germany has a common frontier with Switzerland. Three languages are spoken by the Swiss—German, French and Italian. Would it not be an unnecessary complication to have three separate documents printed for the Swiss ? Would it not be simpler to produce a single pamphlet with the explanations and comments accompanying the drawings given in the three languages ? This seems a more practical solution, as it would not oblige the distributing agency to find out what language was spoken by every single driver.

Lastly, the countries issuing the pamphlets should investigate the methods of distribution and the languages spoken in the countries for which they are intended, before deciding whether to produce them in one or more languages.

V. Which country should provide the pamphlets ?

1. Before taking this point, a question arises which may be solved in different ways. To achieve some consistency in the presentation of the information and ensure a judicious choice of the special rules to be included, it may be considered whether it is better to prepare one comprehensive document covering all countries from which each country would extract some points specifically relating to it?

The suggested method is not to be entirely ruled out, as the comprehensive document could be prepared by such an international organisation as the P.R.I. or by a Commission on which the countries concerned would be represented, directed either by the E.C.M.T. or the P.R.I.

It was suggested that this document should take the form of a two-leaf folder. Leaf A would deal with the special rules in force in the issuing country and Leaf B would consist of a brief outline of the principal rules applied in all countries (right of way, overtaking, left turn, speed limits, etc.).

The most practical solution, however, seems to lie in each country being left to choose the special features of its Highway Code to be included in the informative document for foreign drivers.

2. Once these special features are decided for a given country, should the country itself draft the relevant information and have it translated into the different languages spoken by visitors? And should it undertake to prepare the printed matter?

There are several possibilities: the printed matter can be prepared in the motorists' own country, to ensure that the explanations and comments were correctly drafted in their own languages, and facilitate their distribution before the drivers set out.

On the other hand, it may be considered that it behoves the country visited to take steps to inform its visitors. Means must be found to give the driver the printed matter before he leaves his own country, as described later,

and the difficulties of translation into foreign languages are not a serious objection.

Furthermore, the country receiving foreign visitors should take steps to make them as welcome as possible, this was a matter of tourism and economics to which most States were at present paying close attention.

Lastly, the country visited was best qualified to decide the main points to which the foreign driver's attention should be drawn, in order to obviate any difficulty or any risk of his causing or being the victim of an accident, which might also involve citizens of the country concerned.

It may therefore be concluded that it is for the country visited to take the initiative in providing informative pamphlets. This does not exclude the possibility of applying to an international organisation to help to decide the scope of the information which should be included and ensure correct drafting in the different foreign languages.

The same considerations and conclusions apply to posters and hoardings.

VI. Standard international symbol

There is no need to stress the importance of the information thus imparted to drivers.

To draw their attention to the advantage of obtaining, reading and studying the printed matter, and to mark the connection between the various media proposed (pamphlets, posters, hoardings), it is recommended to invent an international symbol to be reproduced on all three types of information. Thus, the motorist noticing the symbol on a poster whould know that more detailed printed matter was available, and would be implicitly invited to obtain it. The motorist seeing the symbol on a roadside hoarding would understand that the information it gave concerned him personally, and would pay greater attention to it. Lastly, the appearance of the symbol in the heading of a pamphlet would incline the motorist to examine its contents.

The symbol might be chosen by an E.C.M.T. commission in collaboration with the P.R.I. and the O.T.A., or one or other of those organisations might submit suggestions to the E.C.M.T., which would make the final choice.

VII. Methods of distributing informative documents

A. As already pointed out, it is most useful to be able to hand the informative documents to drivers before they leave their own country, whenever possible. They would thus be able to consult and study them before taking to the road in the country or countries they intended to visit, and would be warned of any special regulation applicable.

It was generally agreed that such information provided before the start of the journey would be more effective than any documents supplied en route, as the driver's attention is often occupied with other problems, and at the end of one stage of a journey he is too much in need of diversion or rest to devote sufficient time to the information given about the traffic rules in the country where he is.

Consequently, means should be found of issuing the material to drivers wishing to go abroad in good time.

B. 1. To ensure the best results in the distribution of pamphlets, the following agencies were proposed. The list is not drawn up in any order of priority or preference and is not final.

1. Road safety associations;
2. Automobile Clubs, Touring Clubs, etc.;
3. National Tourism Offices and branches in foreign countries;
4. Travel agencies;
5. Embassies and Consulates;
6. Departure points for the carriage of motor vehicles by rail, sea or air;
7. Insurance companies;
8. Bureaux de Change;
9. Filling stations;
10. Frontier services;
11. Self-drive hire firms;
12. Hotels and camping sites.

2. Some of these distributing agencies would, of course, be more effective than others. A Bureau de Change, for instance, would probably not welcome the receipt of a mass of documentation to be judiciously distributed according to the countries for which its customers obtained foreign exchange.

Again, filling stations far from any frontier do not seem particularly suitable for the distribution of the information. Those near the frontier might, however, be included, as they could render a further service to their customers by providing the documentation concerned.

Furthermore, some insurance companies issue the international insurance certificate to their policy-holders upon payment of the premium; they then have no means of knowing which country or countries are likely to be visited, and could not therefore choose the right documentation to provide. On the other hand, companies

which only issue the international insurance certificate upon request might be of great help in distributing the documentation, as they could find out which country or countries the applicant proposed to visit.

The above agencies were nevertheless retained in the list, as they could be applied to for help, and if willing to take some trouble could see that the informative pamphlets were efficiently distributed.

3. As stated under V, the country visited was considered to be best qualified to provide the hand-outs.

On the other hand, the utility of issuing the printed matter to drivers before they start off, and hence in their country of residence, was recognised under VII A.

The country to be visited which provides the hand-outs will therefore need to find the means of supplying the distributing agencies in the countries from which its visitors come.

It should also be noted in this connection that, as part of their propaganda to attract foreign tourists, the countries concerned neglect no means of documenting foreigners likely to visit them.

International co-operation between E.C.M.T. countries should be promoted to ensure that pamphlets from any one country are properly distributed in other countries.

Stress may be laid on the part which tourism offices can play through their branches abroad, as well as Embassies and Consulates. The automobile and touring clubs, which are in constant touch with one another, directly or through the O.T.A., should also be used, as well as the road safety organisations which constitute the P.R.I.

4. The following places are suitable for exhibiting posters:

— Bureaux de change;
— Travel agencies;
— National tourism offices and their branches abroad;
— Hotels and campings site.

Other centres, e.g. automobile and touring clubs, filling stations and road safety associations should also be considered.

The competent authorities in each country could use any other sites they considered suitable for posters.

The supply of posters does not raise the same problems as the supply of hand-outs. If a single poster were issued, as suggested, with the sole object of drawing attention to the existence of the hand-outs, the issuing country would be able to use its own posters, bearing the standard international symbol and a suitable text. Drivers reading the poster would learn that hand-outs existed and would thus be implicitly invited to obtain them.

VIII. Conclusions

The following general statement may serve as a guide for the preparation and distribution of the various information media for foreign drivers:

1. Recommended information media: first pamphlets and secondly posters and hoardings;
2. Creation and adoption of a standard international symbol to appear on hand-outs, posters and frontier hoardings;
3. Information media to be prepared for the use of foreign drivers by each country visited;
4. In hand-outs, information to be restricted to any important special traffic rules and road signs used in the issuing country;
5. Each country to choose the important special rules for inclusion and to see that its information media are kept up to date;
6. Information media may be produced in one or more languages;
7. The choice of distributing agencies for the hand-outs to be as wide as possible, and determined, if possible, in the country of departure;
8. Posters to draw motorists' attention to the utility of obtaining the hand-outs on the country visited should be drawn up on the simplest possible lines, with as little lettering as possible;
9. Posters should be put up in sites where they are likely to be seen by the greatest possible number of motorists intending to travel;
10. Roadside hoardings should deal with a single point, and be easily readable by passing drivers.
11. The importance of providing information to foreign drivers makes it desirable for Member countries of the E.C.M.T. to co-operate on the choice of information and its distribution by suitable agencies operating on their respective territories.

The Committee of Deputies proposes that the Council of Ministers instruct it to keep the application of the suggested practical measures under review, in consultation with the P.R.I.

ANNEX

I. List of Officers of the E.C.M.T.

II. List of delegates at the Bordeaux and Paris Conferences

I

LIST OF OFFICERS OF THE E.C.M.T.

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 3rd December 1964, elected the following Officers:

Chairmanship (Portugal):

Mr. C. DA SILVA RIBEIRO, Minister of Communications.

First Vice-Chairmanship (Switzerland):

Mr. W. SPUHLER, Member of the federal Council, Head of the federal Department of Transport, Communications and Power.

Second Vice-Chairmanship (Germany):

Mr. H. C. SEEBOHM, Federal Minister of Transport.

OFFICERS OF THE COMMITTEE OF DEPUTIES

In application fo Article 3 of the Rules of Procedure, the Officers of the Committee are the following:

Chairmanship (Portugal):

Mr. L. de GUIMARAES LOBATO, President of Directorate.

First Vice-Chairmanship (Switzerland):

Mr. B. TAPERNOUX, Deputy of the Director, Federal Office of Transport.

Second Vice-Chairmanship (Germany):

Mr. W. TER-NEDDEN, Ministerial Director.

II

LIST OF DELEGATES AT THE BORDEAUX AND PARIS CONFERENCES

AUSTRIA

Mr. PROBST[2], Federal Minister of Transport.
Mr. FISCHER, Director-General (Deputy to the Ministry of transport),
BAZANT, Ministerial Director,
Mr. HABEL[1], Director-General, Ministry of Commerce and Reconstruction (Deputy to the Minister of Commerce),
Mr. FENZ, Ministerial Director.

BELGIUM

Mr. BERTRAND, Minister of Communications,
Mr. MALDEREZ[1], Secretary-General (Deputy to the Minister),
VREBOS, Secretary-General (Deputy to the Minister),
GORDTS, Head of the Minister's Private Office,
NEUVILLE, Administrative Director,
POPPE[2], Adviser.

DENMARK

Mr. LINDBERG, Minister of Communications,
Mr. CHRISTENSEN, Secretary-General (Deputy of the Minister),
FOLDBERG, Deputy Head of Section,
KLOKKER, Secretary to the Minister.

FRANCE

Mr. JACQUET, Minister of Public Works and Transport,
Mr. CORBIN, Engineer in Charge, Highways Department (Deputy to the Minister),
AUDIAT[1], Deputy Head of the Minister's Private Office,
LATHIERE[1], Technical Adviser, Minister's Private Office,
ROUX[1], Embassy Counsellor, Technical Adviser, Minister's Private Office,
GABARRA, Embassy Counsellor (Ministry of Foreign Affairs),
DALGA, Civil Administrative Officer, Ministry of Public Works and Transport.

GERMANY

Dr. SEEBOHM, Federal Minister of Transport,
Mr. TER-NEEDEN, Ministerial Director,
LINDER, Head of Section,

1. Bordeaux session.
2. Paris session.

GERMANY

MITTMANN[1], President,
STOLTENHOFF, Ministerial Adviser,
MURSCH[1], Administrative Director,
Mme BOROWSKI, Senior Administrative Adviser,
WOELKER[1], Senior Administrative Adviser.
Mr. REHM, Administration Adviser.

GREECE

Mr. SINIS[1], Director-General of the Transport Department, Ministry of Communications (Deputy to the Minister),
MILON, Adviser, Greek Delegation to the O.E.C.D.

IRELAND

Mr. CHILDERS, Minister for Transport and Power,
Miss BEERE, Secretary-General (Deputy to the Minister),
Mr. SHEEHY, Principal Officer, Road Transport Section,
O'SULLIVAN[2], Principal Assistant.

ITALY

Mr. MANNIRONI[2], Under-Secretary of State Ministry of Transport,
Mr. SANTONI-RUGIU, Deputy General Manager of the Italian State Railways (Deputy to the Minister),
MORGANTI, Expert,
TURI[1], Expert,
ROSSINI[1], Chief Inspector.
FENELLI[1], Inspector General, Minister's Private Office,
RHO[2], Chief Inspector,
CECILIA[2], Head Engineer of Road Traffic, Ministry of Public Works.

LUXEMBOURG

Mr. BOUSSER[2], Minister of Public Works Transport, Postal and Telecommunications Department,
P. GREGOIRE[1], Minister of Transport, Fuel and Power,
Mr. LOGELIN, Government Adviser (Deputy to the Minister).

NETHERLANDS

Mr. KEYZER, Secretary of State for Transport and Waterstaat,
Mr. VONK, General Adviser to the Minister of Transport and to the Secretary of State (Deputy to the Minister),
RABEN, Director, General Directorate of Transport,
ZWANENBURG[1], Transport Attache to the E.E.C.,
C. VAN DE WETERING, Head of the General International Affairs Division,
NIEUWENHUIJSEN, Transport Adviser, Ministry of Foreign Affairs.
RUHL[2], Head of the Division of International Affairs.

NORWAY

Mr. HIMLE, Minister of Transport,
Mr. LORENTZEN[1], Secretary-General (Deputy to the Minister),
PAXAL[2], Head of Secretariat.

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1. Bordeaux session.
2. Paris session.

PORTUGAL

Mr. DA SILVA RIBEIRO, Minister of Communications,
Mr. DE GUIMARAES LOBATO, Chairman of the Steering Board (Deputy to the Minister),
DA COSTA, Chief Engineer, General Directorate of Land Transport,
SEQUEIRA BRAGA, Ministerial Secretary,
OLIVEIRA MARTINS[1], Railway Administrative Officer.

SPAIN

General VIGON-SUERODIAZ[1], Minister of Public Works,
Mr. LORENZO-OCHANDO, General Director of Land Transport (Deputy to the Minister),
CARRAL-PEREZ, General Technical Secretary,
OYARZUN[1], Director of Relations with Economic Co-operation Organisations Ministry of Foreign Affairs,
PEREZ-RUIZ[2], First Secretary, Ministry of Foreign Affairs.

SWEDEN

Mr. SKOGLUND[2], Minister of Communications.
Mr. HERMANSSON[1], Minister of State,
HORJEL[1], Under-Secretary of State, Ministry of Communications (Deputy to the Minister),
PETERSON[2], Under-Secretary,
WIBERG, Chief of Section, Ministry of Communications.

SWITZERLAND

Mr. SPUHLER, Member of the federal Council, Head of federal Department of Transport Communication and Power,
Mr. TAPERNOUX, Deputy to the Director, Federal Office of Transport (Deputy to the Minister),
MESSERLI[1], First Head of Section, Department of Justice and Police,
PFISTER[2], Chief of Subdivision, Division of Police,
GUT, Diplomatic Deputy, Federal Political Department.

TURKEY

Mr. ALPISKENDER[1], Minister of Communications,
Mr. MENGILIBORO[1], Director of the Road Safety Department, Ministry of Public Works.

UNITED KINGDOM

The Rt. Hon. Mr. T. FRASER[2], Minister of Transport,
Lord CHESHAM[1], Parliamentary Secretary, Ministry of Transport,
Mr. MILLS, Under-Secretary, Ministry of Transport (Deputy to the Minister),
HILL, Under-Secretary,
LAWMAN[2], Private Secretary to the Minister,
ROPER[2], Adviser, United Kingdom Delegation to the O.E.C.D.,
SHERWIN[1], Private Secretary.

YUGOSLAVIA

Mr. BOGAVAC[1], Under State Secretary,
Mr. ILJADICA, Director, International Transport Division (Deputy to the Minister).

Secretary: Mr. MANGE

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1. Bordeaux session.
2. Paris session.

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