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SELECTED TRANSLATIONS FROM THE OSShD BULLETIN

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1. CONFERENCES OF TRANSPORTATION MINISTERS

By H. Drazkiewics

In September 1960 the transportation ministers of the socialist countries will meet in P'yongyang for their fifth conference. They will evaluate the work which the OSShD has accomplished up to the present and will establish goals for 1961. This annual conference of Ministers (which is the highest organ of the OSShD) has been the most important meeting in the international sphere of the transportation services of the socialist countries.

The great economic and cultural progress of the socialist countries decisively influences the development of the transportation services. Thus for example, from 1950 to 1958 the number of tons carried by member railroads increased by about 200%. Naturally, during the same period the number of international freight shipments also climbed considerably. From these facts one may recognize the great political and economic meaning of the work of the OSShD for the socialistic transportation services.

For about two and a half years it has been possible to speak of practical work on the part of the Committee of the OSShD. Two and a half years are a relatively short time for an international organization. However, we can already look back upon considerable success.

The various measures taken by the Committee of the OSSD have important meaning. They exercise direct influence upon the fulfilment of plans for transportation in the socialist countries. They are put into operation immediately by the member railroads, and affect the economic life of the participating countries.

Every year the Committee organizes the preparation of plans for international freight shipments, for aid in freight cars, and for other requirements which assure plan fulfillments. The yearly international conferences for drawing up time tables for passenger and freight trains between the member countries of the OSShD follow. These special sessions are among the efforts of our organization, and the existence of the member railroads cannot be imagined without them. They have contributed much to the frictionless development of transportation in our countries.

As is well known, the permanent regulations of the SMGS (effective 1 January 1960) and the SMPS (effective 1 June 1960) and the regulations of the PPW have come into force [abbreviations not further identified in source]. If one considers the complications cleared up by these regulations, one can affirm with satisfaction that their solution has been a great success. The solution facilitates for many workers of our railroads both international freight shipments and international passenger travel.

In 1957 and 1958, a long list of resolutions and recommendations was worked out and published in pamphlet form by the Committee.

The resolutions and recommendations established in 1959 were made available to all members of the OSShD in an important communication, together with the final texts and their effective date. At the present time the above mentioned resolutions are being printed in leaflet form.

Along with the already mentioned resolutions and recommendations, one should not leave unconsidered the fact that thereby an entire list of questions and problems was solved, important to the further development of transportation in the socialist countries.

The resolutions published in the pamphlets refer, among other things, to the principal characteristics of cars in international traffic. Thus, for example, the maximum allowable axle pressure, the maximum allowable weight per meter, the breaking point of screw couplings and the designed speed of freight and passenger cars are included. The basic measurements for complete wheel sets and rims have been established, as well as basic dimensions for journal boxes of two-axle freight cars, with roller bearings and with plain bearings. These pamphlets also contain the basic dimensions of bearing springs and the spring suspension units for two-axle freight cars, the dimensions of buffers and brake shoes, the basic dimensions of interior equipment of passenger cars, and many other things.

Naturally, these resolutions apply only to the member roads of the OSShD. But their importance greatly transcends the borders of the individual transportations ministers. In a practical sense, the total industry of our countries, which manufacture these parts and these vehicles is indirectly included within these resolutions.

The majority of these resolutions and recommendations were made and accepted a year ago or earlier. They have been for the most part put into effect by the member roads, and they are already operating in the improvement of our work. However, the short time span does not yet allow a complete analysis of the economic benefits brought about by the introduction of these solutions. Such an analysis, however, is to be greatly desired since it would provide the foundation for the working out of the job program of the OSShD for 1961 and for following years.

In the area of scientific and technological research, an overall plan through 1965 has been worked out and accepted. This will include research in railroad systems, auto traffic, and in road service. Through this work a duplication of effort by the single departments of the OSShD members will be avoided and the possibility will be opened to obtain scientists as well as laboratories for further work. Thus the research will be conducted in a much more rational way. Also the faster and faster progress of the transportation systems of our countries places an ever greater demand upon scientific research. Thus it has been shown that even the above-mentioned plan is no longer adequate, and at the present time we are investigating a shheme by which we can change over to a mutual and common use of the already existing laboratories. We wish to establish international research laboratories and testing grounds. This would clearly prove what the

OSShD can accomplish in this respect, and it should also show that the time has come to start research on scientific topics at a higher level within the framework of our organization.

Among the important questions which lie within the range of cooperation are, for example, the future type of automatic couplings and the standardization of vehicles and parts. These jobs are being worked out in cooperation with the RGW and also in contact with the UIC, which has been busy with the same problems [abbreviations RGW and UIC not further identified in source]. Naturally, such problems can not be solved overnight.

These problems have only just been taken up. But their extraordinary significance requires that they be given first priority by all member roads. Beyond that, we will work on such things as, for example, vehicle limitations, the scope of headlights, the development of electrical train service as well as other methods of train locomotion, the perfection of safety and signal installations, and improvement of the road beds.

A very important and comprehensive work of the Committee is the determination of the need in machines of uniform construction pattern and measurements while at the same time reducing the number of machine types in railroad and motor vehicle plants. The results of this work will lessen considerably the tasks of the industries in our countries. With a lesser number of machine types, our industry will be in a position to specialize, to manufacture a greater quantity, to reduce production costs, and to turn out a better product. This is true first and foremost for the most important machines, where the manufacture is very complicated, or for such machines as are used in lesser numbers by the single railroads or in motor vehicle service. In these cases independent production would not pay, and with the mutual help and cooperation of the industries in our countries, better and more favorable conditions of manufacture are created. A typical example is the combine for ballast cleaning and rail improvement.

One should note that this work has already been successfully begun and that the first results are already at hand. Certainly, the complete solution of these tasks is not simple, but it has an extraordinary importance for the transportation systems, for industry, and for our countries. Therefore we should get together and double our efforts in this area in order to get ahead as quickly as possible. This problem, as well as other questions, will be solved by the Committee in close cooperation with the corresponding Commission and the Departments of the RGW. This would create a much more immediate contact between the users of the machines and their manufacturers. We should now point to the XIth Commission (Motor Vehicle Transportation and Road Service) as the youngest Commission of the Committee. Both motor vehicle transportation and road service in our countries are in the process of very rapid development. Therefore, the entire work of the Commission is devoted to this development and the questions which have come up and have to be solved. The Commission is considering the conditions for international transportation, uniform number plates

denoting vehicle performance, and working out proposals for fulfilling the need for and the standardization of garage installations. Further, they will solve questions concerning road and bridge construction and general road and bridge improvement.

Cooperation with other international organizations goes along with the development of OSShD work. Something has already been said about the cooperation with the RGW in the area of transportation service. In addition, contacts exist with the Internal Transportation Committee of the Economic Commission for Europe, with the OCTI, the CIT and other organizations [abbreviations OCTI and CIT not identified in source].

In order to be able to work at all in a successful way, the Committee had to originate its own work methods. This was necessary because representatives of twelve countries worked together in the Committee, and the work patterns and the languages were quite different. It should be apparent that a certain time was required to create a uniform work system. These jobs, however, were made easier because all of our representatives pursue the same goal: keeping of the peace and the struggle for the realization of socialism. They work together in a collective way on every principal problem.

If one examines the work of the Committee from this point of view, one must admit that in spite of the faults still present in the Committee setup, considerable results have been achieved in the many proposals and recommendations. This will work for the positive realization of a socialistic transportation system in our countries.

Naturally it is necessary to introduce further improvements in the work of the Committee. We will find new forms of organization, and without doubt these organization measures will lead to further successes for the OSShD.

2. DEVELOPMENT OF THE RUMANIAN TRANSPORTATION INDUSTRY AND COOPERATION WITH THE SOCIALIST COUNTRIES

By D. R. Mocanu

Before the war Rumania was considered in the economic sense one of the backward countries. The metal and the machine industries were weakly developed. Nevertheless the Rumanians had certain traditions and experience in the manufacture of railroad equipment. Even before the war, this tradition was already over seventy years old.

The great development of the rail transportation industry in the Rumanian People's Republic began after the Second World War and especially after the Nationalization of the most important plants in 1948. The "Gheorghi Dimitrov Plant" of Arad, which specialized in car construction, was rebuilt and modernized. The production capacity was increased considerably by the construction of new and modern assembly lines, by a technological reorganization and by equipping the lines with modern tools, lift and transport equipment. The newly built assembly sections for cars are among the most modern in South-eastern Europe.

The demands caused by the rapid development of our rail transportation, as well as the growing demand for export, made it necessary that our program of manufacture be continuously expanded both in volume of production and in the variety of transportation equipment. In the year 1959 eleven times more freight cars were produced than in 1938 and three times more than in 1955.

The manufacture of steam locomotives, passenger cars, and motor carriages increased in the same way. In the year 1959, the transportation industry made up 7.5% of the total machine industry of the Ministry of Heavy Industry in the Rumanian People's Republic.

Special attention has been paid to the perfection of technology, to the quality, and to the manufacture of modern types of railroad equipment. For example, riveted construction has been replaced by welded, and automatic welding has been extended to the car frames. Heavy body construction has been replaced by pressed sheet metal construction and has also been changed to a number of other types of pressed materials. These measures have contributed to a reduction in the net weight of the cars and to an improvement in their technical qualities. By way of example, the net weight of enclosed freight cars has been reduced from 13 tons to 11.7 tons. At the same time, the useful load capacity has been increased from 20 to 28 tons. The two-axle open cars of 28 tons, with a load surface of 35 square meters, can also be used as platform cars since they are fitted with removable side walls. The open four-axle 50-ton car, with automatic unloaders, designed for ore and coal transportation, have also been reduced in net weight and now have a load length of 13.7 meters. The car frame, the wheel housing, and the car box are of welded metal construction. The car boxes have two side doors, and each car has ten hatch doors which can be operated automatically by means of a self-unloading mechanism.

The recently built diesel-electric trains consist of six cars (two motor cars) and have a length of 136 meters and a total net weight of 320 tons. Their 1,400 horsepower motors make possible a speed of 120 kilometers per hour. Within the framework of the economic relations between Rumanian People's Republic and the other socialist countries, our country is at the present time exporting several types of cars to some of the democratic countries. The Rumanian People's Republic receives in exchange from the other socialist countries certain special types of transportation equipment or other machines and tools which we need badly, or which we can not manufacture ourselves.

In addition to specialization in the production of various types of transportation equipment, the coordination of scientific research and planning, as well as the working out of uniform technical purchase and delivery regulations for diesel motors are especially important. This includes also the working out of a uniform method of measurement for the parameter of motors during tests, and the establishment of a standardized designation for internal combustion engines. In the same way, the recommendations concerning the standardization of a great number of main car components are important, such as the hydraulic relaying systems, the cooling systems, the hangers, and other component parts.

In consideration of the OSShD proposal to standardize diesel locomotive parameters, the Work Group of the Construction of Transport Machines Section has made it possible to standardize the 350-500 h.p. diesel locomotive while taking into consideration the technical characteristics of the Locomotive 8 type (of 350-500 h.p.). Measures are already in service, or their manufacture has already been planned by the member countries of the RGW.

These measures will considerably increase the profits of production in our country and in the other socialist countries. This will do away with duplication of work and very many hours will be saved for new planning and research. Through the working out of unified purchase conditions for diesel locomotives, the trade exchange will be considerably facilitated not only among the member countries of the RGW, but also among the other member countries of the UIC.

Together with the development of technical and scientific cooperation among the socialist countries, mutual exchange of technical documents and specialists is indispensible to progress. Our transportation industry has found especially useful, for example, the documents provided by the Hungarian People's Republic (in the question of the 88-seat MAV passenger car, those from the German Democratic Republic in the question of car construction, and those from the Polish People's Republic concerning the manufacture of longitudinal girders for locomotive frames. At the same time, our manufacturers have shared their knowledge with other socialist countries. We have given the Czechoslovak Socialist Republic documents for the manufacture of 50-ton self-unloading cars, to the People's Republic of Bulgaria technical documents for the manufacture of freight cars, for 40-ton tipping cars, and for locomotive fire boxes, among other things.

The directives of the Third Congress of the Rumanian Worker's Party foresee important jobs for the development and modernization of our rail transportation. They provide that in the years 1960-1965 the technical and material foundations of our rail transportation will be considerably improved. This includes:

1.) Introduction of diesel and electric train locomotion to replace steam engines.

2.) Improvement of the lay-out in railroad yards, commencement of electrification of track sections with difficult grades and heavy traffic.

3.) Mechanization and automation of the rail industry.

Consequently in the years 1960 to 1965 the Rumanian Railroads will be fitted out with 330 diesel-electric locomotives; so that in the year 1965 planned transportation with diesel electric and electric locomotives should represent from 45 to 50% of the train traffic. During this period, the railroads of our country will be equipped with at least 11,000 new freight cars, of which the greatest number will be four-axle cars, consequently giving a still greater load capacity. One thousand five hundred refrigerator cars will haul perishable goods. Improvement in the conditions for travelers will be assured by equipping the railroads with a larger number of newer and more comfortable passenger cars, including sleeping cars and dining cars, as well as with a number of motor carriage trains.

During this time the production of diesel-electric locomotives will be expanded. In 1965, ninety-five diesel-electric locomotives will have been produced. The increase in the production of freight cars will continue and will reach 6,000 cars in 1965, or 1.7 times that of 1959.

We are paying special attention to the modernization of manufacture, the improvement of car equipment, and to comfort. At the present time, practical measures are being taken for the application of low alloy, high priced steel, which will mean a considerable reduction in the net weight of cars and at the same time an increase in their load capacity.

Supported by the brotherly help of the socialist countries, especially the USSR, the Rumanian workers, technicians and engineers will honorably carry out the responsibilities which fall to them, in order in this way to contribute to the swift completion of the socialistic structure of the Rumanian People's Republic and to the strengthening of the Socialist world system.

3. MAIN TASKS OF THE POLISH ROAD SYSTEM

By A. Gajkowicz

Today motorized traffic is undergoing rapid development throughout the entire world. The number of motorized means of transportation climbs swiftly. New and improved products are being constantly developed in order to lower operating costs and to increase passenger comfort as well as vehicle safety.

In the various countries of the world, the transportation accomplishments by means of motor vehicles are greater than those of railroads and ships, and in most countries more tons of goods are now transported by truck than by the railroads. The transportation of passengers has increased in the same way. Motor traffic has developed very quickly in Poland, and in some types of vehicles, such as trucks and motor cycles, we will reach within the next few years the average of the leading countries in this field.

From the economic viewpoint, motorized traffic has several advantages. Trucks can do a better job of house to house hauling and can carry large quantities of goods almost anywhere. By the same token, very large freight shipments which can not be broken up can be hauled by truck. Because of the great size of the freight, the railroads can not haul such goods, but trucks can be adapted to fit both the various types of freight and their measurements.

Compared to other forms of transportation, both packing costs and the percentage of loss in damaged goods is lower with truck shipments.

In regions where transportation is poorly developed, the use of trucks is usually the most suitable from the economic viewpoint. Compared with the building of railroad tracks, they provide a much less expensive way of first passage.

From the social viewpoint, motorized traffic has an even greater significance. Motor vehicles have considerable influence upon changing the pattern of village life, and they firmly establish economic and cultural ties between city and country. Motor vehicles have also caused a strong development in tourist traffic. The passenger car, the mototcycle, and the bus make it possible to visit all sorts of sights and scenic regions.

Even along back roads in rural areas, the development of tourist traffic has led to the establishment of hotels and restaurants.

In many countries the greatest number of employed people work in that branch of the total economy which is connected with motor traffic.

In some countries more than 15% of the total number of workers and employees are engaged in the manufacture of motor vehicles, in servicing them, in repair and maintenance, in the production and distribution of oil and gasoline, in the construction and maintenance of roads, or attending to the tourist needs.

Motor transportation development and its payment of a high profit depend upon the existence of a complete and well built road system. The level of development of the road system of any region may be measured by the number of miles of hard surfaced road in relation to the total area of the region. This measurement depends, however, upon the population density, the character and level of the economic development, the contour of the countryside, and other factors.

Before the war Poland had a road density of 16.5 kilometers per one hundred square kilometers of area. At the present time, this amounts to 33.5 kilometers per 100 square kilometers, which means that the road density has been doubled. For purposes of comparison, one may point to the density of the road system in other countries. In Czechoslovakia, it amounts to 54 kilometers, in Italy to 65 kilometers, and in England and France to 115 kilometers per 100 square kilometers of area.

The road system of Poland was laid out, however, in an irrational manner, and it is not evenly distributed over the land. It has developed under such varied economic conditions. Consequently there are next to areas which have a greater density of road system than the average (Wojewodztwo[Province] Opole 51.8 kilometers per 100 square kilometers) regions in which the density is considerably less (Wojewodztwo Bialystok with 20 kilometers per 100 square kilometers.) Moreover, there are in Wojewodztwos, which have the requisite average road system density, districts or circuits in which the existing roads do not meet even the most elementary needs.

It follows from this that it is very important to build hard surfaced roads in the various country districts. From 1945 to 1959 over 8,500 kilometers of hard-surfaced road were built in Poland, and about 2,000 kilometers in country districts and circuits. The average density of the system has risen, therefore, by 10% in some sections of the Wojewodztwos; for example, Bialystok by 23%, Lublin by 21%, and Kielce by 19%. If one accepts this increase as an absolute value, it appears to be considerable; but for the urgent need of the region it is still very little.

From 1961 to 1965 we plan to build a total of 4,000 kilometers of road. Of this, 2,700 kilometers will be financed by government investment plans, and 1,300 kilometers by local administrations. The greater part of these new roads will be built in regions with a low density of road system. Of these proposed 4,000 kilometers of road, 850 kilometers will be national and 3,150 kilometers will come under the jurisdiction of local administrations. The density of the road system by the end of 1965 will amount to 35 kilometers per 100 square kilometers.

Without doubt a number of hard surfaced roads is an unconditional requirement for the satisfaction of local transportation needs. This requirement, however, is not enough in itself. Not only are hard-surfaced roads required, but also a high degree of excellence in their construction to guarantee a profitable, mechanized road traffic, with an attendant increase in traffic safety and the completion of a dependable form of road transportation.

Roads paved with gravel or cobblestone are no longer suited to modern requirements of motor traffic. One of the main jobs for the road service is the gradual replacement of these old surfaces with modern pavings such as tar and asphalt mixtures, cement, concrete, or paving stone.

In addition to this replacement of surfaces, modernization of the roads calls for types of paving adapted to the intensity of traffic. For example, the light type of tarvia must be replaced by the medium type, and the medium type by the heavy type. In general the modernization of the roads includes widening of the roadway, improvement and good arrangement of curves both in design and profile, provisions for adequate fields of vision, by-passing of urban areas, and elimination of grade level railroad crossings.

From 1945 to 1959 a total of more than 3,600 kilometers of national roads were completely modernized.

Including those roads which were already modernized before the war, the Polish system is of great national importance. These roads are characterized by a high level of technical perfection. Since 1953 a partial modernization of some of the roads has been carried out by General Road Repairs.

This partial modernization means only a replacement of gravel surfaces with a tarvia surface, with no other change made in the nature of the road. From 1953 to 1959 a total of 9,000 kilometers were modernized in this way.

Before the war, of some 49,000 kilometers of national, Wojewodztwo and local hard surfaced roads, Poland had about 3,000 roads with modern surfaces, which corresponded to the concept for national roads for the time. All together, they made up about 6% of the total length of road. By the end of 1959, out of some 62,000 kilometers of national roads, there was already about 32,000 kilometers of roads with modern surfaces, or ten times more than before the war. However, much still remains to be done in this field.

About 30,000 kilometers of national roads still do not meet the requirements of modern traffic. During the period 1961 to 1965, we plan to finance with government bond issues the modernization of 780 national roads and to partially bring up to date 11,000 kilometers with funds from General Repair.

By the end of 1965, the length of roads with improved surfaces will be increased to 47,000 kilometers, which means that out of our total length of roads, about 75% will have hard surfaces.

Immediately after the war, two Wojewodztwo cities, Katowice and Lodz, were linked to the Capital by hard surfaced roads. Since then the Capital has been linked to all the major cities by improved roads. And now many district cities are linked to Wojewodztwo cities by modern roads. By 1965 all district cities will be linked to Wojewodztwo cities by roads with modern surfaces.

We have already discussed hard-surfaced roads, that is to say, those roads which are suitable for traffic at all times of the year.

There are still, however, many country roads whose universally poor condition bring forth protests from the population. Hard surfaced roads designed for heavy traffic now have a total length of 102,000 kilometers, of which 62,000 kilometers is national road.

In addition there are 182,000 kilometers of country roads (of these, 6,000 kilometers are national roads,) open to local traffic. The establishment of road profiles, road drainage, and the strengthening of the road bed wherever necessary, are the main jobs of the road service of district and local administrations.

About 50% of our bridges were destroyed during the war, including all bridges which crossed large rivers. The destroyed bridge sections lay in the river bottoms and obstructed water flow and navigation.

For the construction and the replacing of our bridges we owe a great tribute to the creative work of our Polish specialists.

It should be remarked in this connection that Polish engineers have already won international acclaim for their ability in the technology of bridge building.

Along with the restoration of bridges for our national roads, there will be a gradual replacement of the former wooden bridges with steel, or steel and concrete constructions. From 1945 to 1959, a total length of 90,000 meters of steel and steel and concrete bridges were built, and several ten thousand meter units of wood and temporary bridges. At the beginning of 1960, the proportion in length of permanent bridges to the total length of all bridges amounted for the national roads to 66%, which is four times more than before the war; and for local roads to 25%, which is eleven times more than before the war. During the years 1961 to 1965, we plan to build 21,000 running meters of bridges for the national roads and 15,000 running meters for the local roads. Moreover a great number of wooden bridges of lesser length will be replaced by steel and concrete bridges (in the course of General Repair.) By the end of 1965, the ratio in length of permanent bridges to the total length will be 80% for the national roads and 30% for the local roads.

The maintenance of roads and bridges is a very important job for the Road Transportation Service. In the first years after the war, the proportion of maintenance for roads and bridges was 30% for national roads and 15% for local roads. This poor satisfaction of a real need was caused by the scarcity of means and materials, which were more severely required in other branches of the economy. But with time, maintenance work has grown so that at the present time the requirements in this area can be filled by about 75% for national roads, and by about 50% for local roads.

Within the scope of the Five-Year Plan, we intend to make a further increase in the area of road maintenance, so that in the years 1963 to 1965 all national maintenance work will be carried out without letup, together with the maintenance of local roads.

In addition to the above, there are still many jobs to be done to guarantee normal routine work in the Road Service. The most important among them are: the battle against snow drifts and ice formation;

proper traffic signs; the maintenance of roads in accordance with a concept of beauty; various roadside plantings, etc. With the great increase in road transportation and tourist traffic, questions of traffic safety and traveling comfort become more and more important.

For this reason, the above mentioned concerns, which were treated in the first years after the war as being of only secondary importance, have become much more pressing problems and can no longer be postponed. But with the now yearly increases in funds, they will surely be mastered by the Road Maintenance and Improvement Service.

Of the great number of problems in the total area of the road service only the most important should be mentioned here. They are:

a) An increase in the level of mechanization. In this area we are greatly behind. This gap in our Road Service, which comes to us from the past, can not yet be completely filled by the ever-increasing number of finished machines and tools placed at our disposal. There is now a Plan, according to which our native industries will be developed extensively in the area of manufacture of road construction machinery. Through the consistent realization of this Plan, a substantial foundation will be laid for the mechanization of road maintenance work. But theconstruction of work shops and base work areas fitted with the necessary machines and tools is immediately connected with this whole problem.

b) Providing the Road Service with the necessary construction materials and seeing to it that they meet high quality standards. Here the adaption of tar and asphalt products to the requirements of the road service and road technology is of especially great importance. The development of industrial stone quarries is also of decisive importance to the Road Service.

c) The carrying out of research in the area of road and bridge construction. The principal purpose here is the creation of new, better and more economic road surfaces and the improvement of bridge construction as well as the introduction of new technological processes. This would include also better exploitation of the physical qualities of binder materials; the extraction of local construction materials when they are suited for road work; the supervision of road surface conditions, and of bridge constructions under various use requirements, etc.

d) Raising the qualifications for the professional groups connected with road construction work. The question of education and choice of personnel is closely linked to problems of technical safety and work health, as well as to living quarters for employees, children;s vacation camps, etc.

e) The participation of the population in useful works for the satisfaction of their own local needs within the area of road construction. It should be underlined here that although more and more means for the construction and maintenance of all categories of roads are being made available, still, at the present time, national finances cannot meet all the needs in the area of road construction. And from the local viewpoint the need for roads is very pressing indeed, if from

the national viewpoint less so. Therefore, the only way in which the satisfaction of these needs can be speeded up is by the use of local initiative for the common good. This would be in the form of Sunday work groups for road construction. At this time, the use of Sunday work groups is made all the easier because considerable support has been offered by the government in the form of money grants to provide materials and payment for professional workers.

f) The improvement of the work organization for road construction in both national and local procedures, and the general improvement of work in the area of road service.

In spite of the important successes, which we have attained in the Road Service in the past fifteen years, we still have many defects in this area. Therefore, there are great tasks ahead for the improvement of the roads, and they will only be accomplished by the common effort of the nation, and of the people directly interested in the improvement of road conditions.

A guarantee of the proper employment of the means which have been placed at the disposal of the Road Service is the fact that the workers in the Road Service of the Polish People's Republic do good work, resting securely on the achievements of modern science.

4. PUBLIC MOTOR TRAFFIC IN THE RSFSR

By F. N. Kalabuchow

With the still further development of all branches of the political economy, with which the Seven-Year Plan of the USSR is concerned, jobs for all the transportation carriers, including motor vehicle transport, are firmly fixed. For example, during the next seven years the transportation of freight by motor vehicles is to be increased 2.2 times. Passenger transportation by motor vehicle will also be very strongly developed. Its share of the whole will be increased from 27% in the year 1958 to 50% in 1965. Therefore, the carrying of passengers will be three times greater in 1965 than it was in 1958.

In order to be able to fulfill this extensive program, it is necessary to combine present vehicle groups into larger transportation systems.

Therefore the biggest job in the RSFSR, as well as in the other Union Republics, is to be found in the reorganization of the work methods of the transportation system. Small transportation groups must be done away with, and the centralized hauling of freight by public motor transport must be further developed.

During the last two years public motor transport has doubled in the RSFSR.

At the same time, in the People's Economic Councils of the Republic, along with the amalgamation of smaller official transportation systems and their surrender to public transportation, new and larger motor transport systems are being created according to the district principle.

Public motor transport has received from the various organizations of the people's economy and the People's Transportation Operation, 50,000 trucks and 30,000 passenger cars, which have been distributed among the already existing motor transport systems and the newly formed large transport systems.

Through the extension of motor transportation operations and the expanded use of motor pools in the area of public transportation, the average number of vehicles of the various transportation systems has increased from 105 vehicles in 1955 to 150 in 1959.

It has been necessary to reorganize the management of public transportation because vehicles have been collected together for public transport operations and because in any one city there are several such transport systems.

The old form of transport operation, in which every transport system had its own manager, could not guarantee the economic use of the motor pool and did not create the necessary favorable conditions for shippers. In many cases, this resulted in the search for "profitable" shippers.

The centralization of management in the operational service which followed in the cities, where several systems of public freight transport existed, made it possible to do away with the defects of the old systems and to reduce the job of fact-finding groups and the work forces which are now in operation. The new, complete and advanced forms of organization employed for the forwarding of goods will be far-reaching in effect. They include centralized transportation for bulk freight, regular centralized long distance hauling by the use of truck freight stations, a complete transport and forwarding service for the so-called small consumer, centralized dispatching for key rail points, combined road and rail transportation service as well as combined road and water transport service. The following are among the most important jobs for the operation of public motor transport:

-- A centralized freight service for all enterprises and organizations to maintenance plants, work shops, railroad stations and harbors, as well as for factories whose products are delivered to many consumers.

-- Regular long distance freight service for all operations and organizations, and for the population along the principal auto routes.

-- Insuring the delivery of large amounts of farm goods, especially during harvest time.

-- Satisfying the needs of plant operation, organizations, government departments, and the population for small freight transportation through the use of trucks and taxis, where the charge will be determined according to an hourly rate.

-- The development of passenger transportation with motor buses, cars, and taxis.

In the RSFSR, we began with the centralized hauling of freight by public motor transport in 1951. This transport operation has developed especially fast in the last five years. While the total hauling of freight by public means of transportation has increased about 2.9 times in five years, the extent of centralized hauling has increased about 4.6 times. The share carried by centralized transportation amounts to over 40% of the total volume of freight shipments.

Centralized transportation has developed especially swiftly for the most important goods in the political economy. Transport of metals and metal products by 10 times, containers and goods for the railroads by 6 times. The hauling of bricks and needed industrial and farm equipment has also increased several times.

In order to achieve a better use of motor pools in long distance freight hauling, the Ministry in 1957 introduced public freight lines for long distance hauling for the routes: Moscow to Ryasan: Moscow to Kalinin, and in 1958 along other important routes.

At the present time 81 auto routes with a length of over 20,000 kilometers have been established for long distance freight transport.

According to the data for 1959, the utilization of hauling capacity in long distance freight transportation amounted to about 90%. At the same time the net operational costs amounted to almost half of the average total of net hauling costs in the ministry for Motor Transportation.

By the end of 1959, freight transportation on the main roads: Moscow to Leningrad; Moscow to Gorki, and to other cities was organized, according to a system of feeder lines. Along with the development of freight lines for long distance hauling, a direct combined rail and road, and water and road freight transport was introduced, which included tank and container transportation. For this purpose the regulations concerning the hauling of freight by direct and combined rail and motor transportation were prepared and confirmed by the Ministry of Motor Transportation of the RSFSR, working together with the Ministry for the Transportation Service of the USSR. For the acceptance and delivery, as well as the dispatching of goods in direct transportation, truck stations with freight offices have been opened in several cities.

Public truck transportation plays an important part in the transportation of farm produce. The measures which have been taken in the last few years for a substantial growth in the farm economy will guarantee a steep rise and a steady yearly increase in the production and the attainment of farm production goals.

At the present time large public truck operations have been set up in the important farm areas of the RSFSR (Altai, Krasnoyarsk, Stavropol, Omsk, Novosibirsk, Orenburg, Saratov, Stalingrad, Rostov, and other areas.) This will make it possible for the motor pool of the Ministry within a very short time to insure the delivery of almost all farm products.

The hauling of passengers will also be of considerable importance to the public motor transport service. In the RSFSR, during the years 1959 to 1960, the number of auto buses in public transportation was increased 2.6 times. The transportation of passengers in auto buses in the same period increased almost 2.3 times -- in local city traffic 2.2 times, and in long distance traffic 3.8 times.

At the present moment, auto buses are in operation within the Republic on about 2,000 lines with a total length of about 220,000 kilometers of long distance routes.

In order to further develop the transportation of passengers by taxi, beginning 1 January 1961 the rate per kilometer will be reduced from 1.5 ruble to 1 ruble, and the jitney-bus rate will be reduced from 50 kopeks per passenger to 30 kopeks. Moreover, the number of passenger taxis in service will be increased by at least 50% in comparison with 1960.

Transportation by rental cars will also be further developed. In 1959 a passenger car could be rented only in Moscow, Leningrad, Rostov, Stalingrad and Sverdlovsk. Now, passenger car rental depots have been set up in almost all major regional cities, the capitals of the independent republics, and in other large cities. Workers and employees can rent a passenger car (of various types, without driver) for any length of time to use it for weekend trips or vacations.

Employees in the motor transportation service who fulfill the norm of the Organization for the Direction of Motor Transportation will go over to a seven hour work day. This is in agreement with the law formulated by the Fifth Session of the Supreme Soviet of the USSR.

The law applies equally to all workers and employees of the Soviet Union.

With great satisfaction the employees of the transportation service have received news of the law formulated by the session of the Supreme Soviet of the USSR, and they respond to the cares of the party and the administration for the worker's prosperity with new work zeal towards a quick and early fulfillment of the goals for 1960, the second year of the Seven-Year Plan.

5. IMPROVED SERVICE FOR TOURISTS IN THE INTERNATIONAL SMPS TRAFFIC

By Chan-Li-Pin

The fast development of political, economic and cultural ties among the socialist countries will doubtless lead at the same time to an increase in the need for travel accommodations. With this development, the number of foreign travelers in the various socialist countries is rising steadily.

In order to imrpove passenger transportation in the socialist countries, an agreement was worked out for international passenger transportation (SMPS) at the 1950 Conference of railroad representatives. This agreement went into effect on 1 November 1951, and included service regulations, the list of fares for SMPS, and other aids. From the results of practical work experience then at hand, and for a further improvement in tourist service, changes and supplements to the SMPS agreement and other aids were taken up by the conferences of the representatives of the member roads, held in Moscow 1953, and in Berlin in 1955.

Since 1951 the fare schedules for the SMPS have been based on the ruble rate in the internal exchange of each country. And since April 1957, new international group fares have come into effect, as follows:

-- German, Polish, Soviet, Mongolian group fares;
-- Czechoslovakian, Hungarian, Rumanian, Bulgarian, Albanian group fares;
-- Vietnamese, Chinese, Korean group fares.

These group fares include ruble rates, which are based on the lowest fare rates of the railroads which belong to these categories, and which may be used by the railroads of the corresponding countries for passengers transportation and for the transportation of baggage and express goods. For ship voyages, the fare lists of the shipping lines of the People's Republic of Bulgaria, the Rumanian People's Republic and of the USSR are used to determine the fare rates for passengers and baggage. These fare rates hold good for transportation between the harbors of Warna, Constanza, Odessa and Durres.

At the 1958 conference of the I and III Commission of the Committee of the OSShD, a draft was prepared for the new and permanent setup of the SMPS, for service regulations, and for the fare rate. These rules became effective 1 June 1960. In comparison with the former rules, they contain a large number of improvements. In order to facilitate passenger transportation and to make the journey more pleasant, new forms of travel identity cards have been introduced. The new line tickets can now be made out for a trip on the lines of six railroads and can be made out for single passenger or for a travel group. Hence, the work of railroad stations and travel bureaus will without doubt be improved and the settlement of accounts among the member roads simplified. For those railroads with a heavy tourist

traffic, tickets with printed instructions will be used. In addition to books of tickets, cardboard tickets may be issued which can be used both for local transportation and for international transportation, corresponding to the agreement among the individual countries.

In case of an unforeseen delay in the trip, such as sickness or an accident, etc., the station master at the station wherever the delay occurs can increase the time limit of the travel identity card.

Furthermore, travelers are now permitted to carry with them radios, TV sets, and other sensitive apparatus, which must be transported carefully, as well as small house pets and fowl, as hand baggage in accordance with the established regulations of the SMPS. The price of berths in sleeping cars is also fixed by the rates of the SMPS. Along with these improvements, certain fare reductions in the passenger and express trains have been granted. Thus, members of the International Student's Union in Prague receive a 25% fare reduction when they show their official membership card for the current year. Students and pupils (of at least ten years of age) who study in other countries receive the same fare reduction once a year for the journey home, when the student identity card or the identity card of the foreign educational establishment are shown.

For special trains, the cost is to be computed according to the rate of fare for the actual number of travelers. The lowest cost for a special train must correspond to the rate of fare for 300 adults traveling second class.

Further, a special fare schedule has been introduced for transportation on the ships of the Black Sea shipping lines of the Ministry for Ship Travel of the USSR. This applies to voyages along the Black Sea coast between the harbors of Odessa, Batumi, Sotschi, Suchumi and Yalta.

Within the near future the member railroads intend to put into effect a unification of international passenger rates. They plan on a uniform rate for all member railroads. This will represent a further step in the development of international passenger transportation.

In accordance with the regulations of the SMPS (No 1 Article 3) for traveler service, the railroads and shipping lines covered by the agreement, are obligated to organize the international transportation of travelers, to make their journey pleasant, and to provide passengers with cultural benefits at railroad stations and in ports.

Thus, at the Conference of Ministers, important proposals and recommendations were accepted, with the result that the railroads of our countries, in accordance with the deliberations of the SMPS, have taken a number of measures for the improvement of travel culture, for the safeguarding of international travel, and for a better organization of the work of the railroads.

Many of these measures have already been realized by the railroads. By way of example, priority transportation has been given to travelers in international traffic by the arrangement of sleeping cars in international trains for travellers whose trip requires more than one night to reach its destination. For a number of trains reserved

seats are now being sold. In order to further facilitate the trip for international passengers, some trains are being closed to internal traffic.

So that they may continue with this improvement in international travel and tourist traffic, the railroads have fixed the exchange of planned passenger transportation schedules for each year. On the basis of these plans, time tables are established for regular and special trains in international traffic, and at the same time the program for car deliveries is determined.

The number of travelers transported in SMPS traffic climbs each year. In 1959 alone more than 20% more passengers were transported in sleeping cars than in 1958. The number of cars used for international connections also increases steadily.

From the GDR and the Czechoslovakian Socialist Republic one or two special trains travels each week to Rumania or Bulgaria. In each of these trains there are sleeping cars, with a total of 330 berths, and a dining car. These extra cars travel the entire route. In the traffic between Poland, Rumania and Bulgaria, there are other special trains which make regular trips, and they too have sleeping cars. A considerable shortening of travel time for trips from Poland to Rumania and Bulgaria was achieved by the direct lines which were introduced on 29 May 1960 between Warsaw and Bucharest, with direct transit through the USSR (Mostiska -- L'vov -- Vadul Siret.) The "Carpatian Express," which travels this route, requires, compared with the old connection through Czechoslovakia, about eight hours less of traveling time.

In addition to the trains which travel at night, almost all international trains now have dining cars.

These cars travel either to the border station of their own country or also across the border along the tracks of other countries. An agreement is now being made for the assortment and amount of provisions to be carried by these trains, and for the price level of food, as well as for a uniform clearance procedure at border stations. In this way, it will be possible for the dining cars of all international trains (especially of tourist trains) to travel in a shorter time from point of departure to point of destination.

In addition to the service in the dining cars, travelers are now able to purchase tea, soda water and pastries in all sleeping cars.

For some connections, the variety of food available has already been extended. Travelers may obtain coffee, beer, meat and sausages, cheese, milk and other things, depending on the arrangement between the railroads and the sleeping car companies of the respective countries. The Bulgarian railroad has come up with the idea of serving travelers in sleeping cars tea and soda water without charge. The practice of cashing traveler's checks and the exchange of money has been established at border stations and in the various trains. This means a still further improvement for travelers.

At the most important railroad stations, announcements about train arrivals and departures are given in several languages in order to prove better tourist information, and in the dining cars, as well

as in railroad station restaurants, the menus are printed in Russian, Chinese, and in the language of the particular country.

In the near future, uniform bulletins for the arrival and departure of international trains will be introduced. An international time table is also planned for distribution, which, besides the times for international train connections, will also contain the times for the most important internal train connections and other important information.

For the improvement of international transportation and the care of travelers, considerable results have already been accomplished by the cooperation of the member roads within the framework of the Committee of the OSShD. Without doubt this will contribute to the consolidation of the already existing ties among the socialist countries.

6. POWER SUPPLY FOR TOURIST CARS

By I. T. Timoshenko

Up to only a short time ago, the electric power supply in passenger cars was used only for lighting purposes. For this reason, it was customary to use 800 watts for each car. It was sufficient, under these conditions, to install a power supply of 6-8 kilowatts in each car of the train. Therefore, there was no acute problem of economy or efficiency as to the choice of electric lighting equipment for a car. In the last ten years, however, demands for car comfort have climbed considerably. In order to meet these demands, the railroads in all countries are starting to increase car lighting to 150 lumens, and to installa mechanical ventilation, centralized heating and air conditioning. Electrical equipment is now also being used for interior car cleaning, including vacuum cleaners and other devices. All this, however, requires a power supply which not only has to light the car, but must also feed the motors and various other equipment.

On the average, power consumption per car has climbed to light kilowatts. For cars equipped with air conditioning, it has reached 25 kilowatts. The locomotive expends 11% of its energy to provide a normal passenger train of twelve cars with the necessary electric power. This is the case in the present system, where each car has its own individual axle-driven generator. An adequate electric supply for passenger cars has become one of the most acute problems in railroad transportation. It is now absolutely imperative to choose an economical type of electrical installation and to obtain assurance of a dependable power supply in passenger trains.

In order to conserve electricity and to improve lighting at the same time, many railroads have already outfitted their passenger cars with fluorescent lights. For this purpose the usual 50 Hz, 220 v AC fixtures have been used. Through their use, the necessary type of electric power supply is already established to a certain degree. The generator must produce a three-phase 380/220 v AC current in order to be able to take care of the lighting installations and the motors for the other equipment without the use of a transformer.

Normal frequency AC current, which is necessary for fluorescent lighting, makes it possible to select three-phase AC motors for use in passenger cars. AC motors offer considerable advantages over DC motors, with which passenger cars are fitted out at the present time.

It is necessary, however, in order to select the most advantageous system of power supply in passenger cars to examine the systems which are in use at the present time.

<u>The Axle Drive System</u>. (Individual car generators driven by the car axle.)

In the axle system the car generator which is fastened either to the car frame or to the wheel truck serves as the producer of

electric current. In this method, two types of installation have been worked out for driving the generator. Number one: the generator is driven by a flywheel set on the axle shaft which transmits its energy through a belt drive. In the second method, the generator is driven by a cardan shaft geared to the car axle.

The axle system for power supply is supplemented with a battery which provides current when the car travels at reduced speeds or when the car is standing still. At the present time, all countries, with the exception of the United States, use this system.

The advantages of the axle system are: a power supply completely independent of outside connections, simplicity both in design and maintenance, and dependability of operation. There are, however, many disadvantages. They are: low efficiency -- only 5 to 6%, the installations are heavy, and for every kilowatt obtained from the generator, the locomotive must expend a much greater amount of energy. These disadvantages make it necessary to examine the suitability of such a system, both in view of mounting electrical needs for passenger cars, and to increases in train speeds which require lowering of both air and travel resistance.

Independent Electric Power Supply

With this system every passenger train is fitted out with units consisting of internal combustion engines and generators. This type of power supply has been widely used in the US. It offers the advantages of permitting the use of normal frequency three-phase AC current in the car for powering three-phase AC motors. The system is also independent of outside power sources. In comparison with the axle system, both the weight per car and the loss in efficiency are considerably less. A battery is not needed, and the inevitable braking effect caused by the generator, which exists whenever the axle system is used, is not present. In spite of these advantages, this system has been used in only a few countries. The reasons for this are: the engine requires continual servicing and maintenance; it must be constantly provided with gas, oil and water; and during periods of low temperatures, the engine must be warmed up after it has been once stopped.

Also, the air filter has to be cleaned frequently because the engine is surrounded by dust and soot under the car. The stops are more unpleasant for passengers, because a part of the exhaust, in spite of all measures taken against it, gets inside the cars. The engine also makes much noise. When cars are fitted out with fluorescent lighting as well as with motors for air conditioning and ventilation, then, without doubt, the output of the engines and generators have to be increased, and sensitive and quick acting current regulators also have to be installed.

Central Power Supply System for Passenger Trains

In this system the power for all of the cars in the train is produced by a central power source. This is either built into the locomotive or installed in a car. In the case of diesel operation, the power source for the generator is diesel, in electric trains it is an electric motor, and in steam, the generator is powered by a turbine.

This system of power supply is widely used for lighting in steam and electric local train operations, and for diesel trains which operate over long distances.

In connection with the electrification of various sections of track, this system has been also introduced for long distance electric trains. The most important advantages are: -- The installation weight per passenger car is five times less with a central power supply than with the axle system, and the weight per production kilowatt is sixteen times less.

-- Doing away with the no longer needed car generators, drive mechanism, and batteries reduces the net weight of a car by almost two tons.

-- In comparison with the axle system the cost of the electrical installations per car is reduced four times, and in terms per kilowatt produced the cost is lowered eleven times.

-- The generator output can be considerably reduced, since large amounts of power are no longer needed to charge batteries.

-- The maintenance of electrical installations is simplified because locomotive personnel can look after the equipment at the time they take care of the important locomotive units. Fuses, switches, and electrical connections do not require constant attention during the trip.

-- The savings in personnel and fuel makes possible a considerable reduction in operating costs. Fuel costs per kilowatt produced are much less with a central system.

-- The use of normal frequency three-phase current makes it possible to use AC motors for the power equipment in cars, and they are considerably lighter, cheaper and simpler in operation than DC motors.

-- For fitting out cars with fluorescent lighting, standard sized tubes (such as those used in city lighting) may be used, and DC current converters are no longer needed.

Metal consumption, including that of bright metals, is considerably reduced with the elimination of generators and batteries for each car.

Choice of the System

In the following table the most important technical and economic index figures for axle systems and central power systems for ordinary passenger trains of twelve cars are indicated. For the sake of comparison, an electrical power supply operated by a belt drive, and a

diesel generator installation with an output of 200 kilowatts are examined. The necessary controls have been made.

The combustion engine system for power supply is not compared to the other two systems, since it is so little used by our railroads.

Index	System	
	Axle System	Central System
Weight of the electric installation per car	1880 kg	363 kg
Weight of the installation per kilowatt produced	336 kg	31 kg
Cost of the electric installation per car	17,606 rubles	4,300 rubles
Cost of the electric installation per kilowatt produced	3,144 rubles	258 rubles

From the date above it is easy to see the obvious advantages of the central electric power supply system for passenger cars.

Moreover, the generator power output with the axle system and belt drive can not be increased much over seven kilowatts, since the belt slips under a higher output.

Therefore, to achieve a higher output of current, a gear drive with a cardan shaft has to be used. This increases considerably the cost of the electric installation for the axle system. Also the operation of the installation becomes more complicated and in general means higher operating costs, since special sections of car manufacturing plants must be set up for gear drives, cardan shafts, and automatic voltage and polarity regulators. These improvements necessarily include also the work processes for adapting axle shafts and providing for the installation of the drive mechanisms.

Especially favorable conditions for the introduction and development of central power supply systems are offered by the extensive shift now being made by the railroads to other forms of locomotion. In many countries the main tracks are being prepared for either diesel or electric operation.

With the establishment of tracks for electric operation, the supply for all the current needs in passenger cars is no longer difficult. Depending upon the length of the train, an electric motor generator of 3000/1500/220 v is built into the electric train. For AC electric trains, special transformers and adapters for single-phase current to three-phase current have to be installed. The transformer alone can only put out single-phase current.

With diesel operation, power for the cars may be produced from an auxiliary diesel generator with an output of 150-200 kilowatts of

three-phase current. This may be built into the diesel locomotive. It should be pointed out, however, that the installation of auxiliary diesel generators in the locomotive itself causes certain difficulties due to longitudinal stress limitations and maximum axle pressures.

In consideration of the great advantages offered by the introduction of the central power supply system in passenger trains, the designers and manufacturers of diesel locomotives must be given the job of finding a way of installing auxiliary diesel-run generators in diesel locomotives.

It is also possible to place the diesel generator in the baggage car, but this variation is less economical since the locomotive personnel can no longer constantly take care of the operation of the generator, and with this method servicing becomes more complicated with fuel, oil and water. This variation might be considered for exceptional cases, but in any case it is more economical than the axle system, where a separate installation is necessary for each car.

Obviously it is expedient to go about the change-over to the central power supply system in a gradual way. A start should be made with those regular trains which travel as complete units, without addition of cars, to their destinations. In the USSR, for example, the following trains are of this type: Moscow-Leningrad; Moscow-Gorki; Moscow-Sotchi, and other runs. And in the People's Republic of Poland: Warsaw - Cracow; Warsaw -- Katowice, and other lines.

Special connections for cars should be provided for plugging into city power systems in order to guarantee uninterrupted current for passenger trains at railroad stations, where engines are changed, and along the side tracks in train make-up yards and stations.

To prove railroad stations with connections for these power supplies, only a relatively small investment is needed, these installations pay for themselves in the first year through the great savings in operating costs.

Concerning the cost of fitting out locomotives with diesel generators, it is expedient to provide newly manufactured locomotives with these generators. At the same time, cars should now be produced without the electric installations for the old axle system. Under these conditions great savings will be achieved both in operating costs and in the original investment.

7. THE CONCEPT OF TRAFFIC LAW

By Dr. W. Gorski

At the conference on problems of traffic law, held in Dresden, it was suggested that the discussion of these problems be continued in the magazine of the OSShD.
Following is the first discussion report prepared for publication.

Both our legal literature and the discussion during the First International Conference for Traffic Law held by the Socialist Countries in Dresden 9-18 February 1960 indicate that the whole concept of traffic law is one of the most widely debated in socialist law theory.

Professor A. Zimbehl, holder of the Chair for Traffic Law and Administration at the Technical School for Traffic Service in Dresden, is of the opinion that traffic law is a separate and independent branch of socialist law. As a hypothesis for these considerations, Professor Zimbehl argues that the relationship between transportation carrier and consumer belongs to the sphere of production and not to the sphere of consumption, which, as is well known, is covered by the normal process of civil law.

For his part, Professor Stary, of the Technical School for the Transportation Service in Prague, indicates that this legal area belongs to civil law.

In opposition to these two viewpoints, I treat traffic law as belonging to a group of statutes of a mixed nature. They contain elements of civil law, administrative law, labor law, and international law.

It should be pointed out, however, in order to complete the picture, that I have not mentioned all the views which exist on this subject. For example, in the DDR a theory is winning more and more adherents, in which traffic law belongs to political economic law. Moreover there are those who hold to the theory that traffic law comes under administrative law.

For the first time, the Dresden Conference made it possible to exchange opinions on these questions. It could not, however, unify the many points of view.

I believe that many of the above mentioned apparent differences are to be ascribed for the most part to a lack of precision in terminology. We should begin therefore with an exact definition of such terms as: <u>communication</u>, <u>transportation</u>, and <u>shipping</u>.

If one were to accept the Marxist definition of the concepts: traffic law, transportation service, and information service as a point of departure for a legal viewpoint, then the term traffic law

would include two areas: transportation law and information law. Unfortunately, we observe also in jurisprudence a far-reaching and arbitrary confusion of concepts in this area, which exercises its own peculiar effect on the problem of classification.

At the present time in many countries there is an artificial arrangement of law statutes which divides transportation law into dispatching law and traffic law. The dispatching law is covered by civil law, while traffic law is covered by administrative and international law.

In my own opinion an example of this division occurs in the contradiction between the concepts of Professor Stary and Dr. Rezabeks of the CSSR. The former allocates traffic law arbitrarily to civil law, the latter allocates it to the area of administrative law, even though both use the German term: "Verkehrsrecht" [Traffic Law]

Is Traffic Law an Independent Branch of Transportation?

Up to the present, traffic law in both capitalist and socialist law systems has not been considered a separate branch of the law. Capitalist countries treat traffic law as either a part of those laws which cover civil affairs, or as a part of trade law, although it certainly contains other elements which go beyond the limits of these regulations. The job of classification first became a problem in the Socialist society, for here the transportation facilities were operated by the state and its various departments. Thereby the number of administrative elements has grown, and they operate to realize the leading role of the socialist state in the people's economy. For this reason, our traffic law has been constantly changing toward a law of a mixed nature.

In discussions held on the principal structure of the law system in the USSR, the whole problem of the nature and the place of the transportation system was brought up. However, there has not yet been any uniform answer to these questions.

For example, M. A. Tarasov, candidate of juridical science, believes that transportation law may be considered a branch of civil law, despite its mixed nature in the socialist law system, since elements of civil law predominate in it.[1] According to the opinions held by the other Soviet jurists, A. D. Keylin and P. P. Vinogradov, one may even consider maritime law as being an independent branch of the laws.

In my opinion one may not speak of traffic law as an independent branch of law, such as, for example, laws of a civil nature, criminal law, or administrative law. This is mainly because the law statutes

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[1] M. A. Tarasov, Sistema transportnogo prava, Sovietskoye Gosudarstvo i Pravo No 4, 1957, p 110.

which cover traffic problems are not of the same nature.

The most important complex of law statutes regulates the relations between transportation carriers and the consumer. This includes the transportation of passengers and freight as well as some secondary services which come under the transportation process, such as forwarding, storing, reshipment, etc. These relations have the nature of property transactions, and the contracts are actually made in the same way. Without doubt law statutes in these categories belong to civil law. The law statutes of an absolutely binding nature form the second complex, and they belong to the area of administrative law.

Regulations which govern international traffic form the third complex. The number and the importance of international agreements grow with the increase in speed, the traveling range, and the hauling capacity of the various means of transportation.

In many branches of transportation there are also special regulations of labor law which cover ship and train trips which are connected.

I believe it is neither necessary nor expedient to incorporate all the above elements into one single law statute. And concerning agreements of an international nature, it is even theoretically impossible to incorporate the various elements, together with the internal laws of a country, into one single law.

Usually, the elements of administrative and labor law are regulated by separate law statutes. It would be relatively easier to combine these elements of civil law with at least some of the elements of administrative law into one law statute. Among the more well known law books of the world which cover traffic law, as far as I know, only the Italian "codice della navigazione" [Navigation Code] includes civil law problems with administrative law problems. Beyond that, the law statutes of the socialist states include not only the basic problems of civil law but also problems of an administrative law nature (in regards to Transportation Planning), such as the Railroad Law of 1952 of Poland, and the Railroad Regulations of 1954 of the USSR.

The treatment of traffic law, as a separate group of law statutes of a mixed nature, finds the most adherents in Poland and in the USSR. However, socialist law theory does not exclude the possibility of separating from the eleven so-called main branches of the law certain sections of the law statutes of mixed nature which because of certain conditions are of sufficiently great importance to our whole society. Among those singled out groups of law statutes, one may include insurance law, construction law, and traffic law. I do not know how this point is treated in the other socialist countries. In Poland, in any case, traffic law is not recognized as an independent branch of the law and is not taught as such by the law faculties of our universities.

Transportation contracts, forwarding contracts, etc. are included within the framework of civil law. Organization and administrative questions come under administrative law, and questions of international traffic regulation stay within the framework of international law.

As is known, discussion is now under way in the magazine Sovietskye Gosudarstov Pravo concerning a possible demarcation of so-called Economic Law, which would regulate economic relations among socialist economic units. A similar discussion is also taking place in the German Democratic Republic and in the People's Republic of Poland.

The draft of the new Polish Civil Law Code, issued in January of this year, includes also many questions concerning the relationship among the socialist economic units.

Division according to the Branch of Transportation

Basically traffic law forms no unified system because it is divided among the various branches of transportation. Each branch of transportation has its own economic and technical characteristics and the legal structure must take them into consideration.
There are, for example:

Railroad laws,
Maritime laws,
Internal navigation laws,
Air traffic laws,
Postal and communication laws,
Traffic laws with specific reference to automobile traffic.

Many writers also include within the transportation area the distribution of liquidsfuels, water and gas by pipe line, and even a supply of electricity. The law regulations for these means of transportation are so clearly separated, however, that I believe they go far beyond the limits of traffic law.

It must be recognized in any case that the problem of the unification of traffic law, or its division into groups, is one of the most important and acute problems of theory and legislation both in the capitalist and the socialist countries.

M. A. Tarasov in the USSR and such writers in the capitalist countries as Josserand, Rodiere and Scapel in France, and Ridley and Kahn-Freund in England urge the unification of traffic law.

Concerning general legislation, it must be acknowledged that law statutes which cover administrative, labor, and international law apply for the most part only to one type of transportation. In this regard, a highly interesting project of the GDR should be pointed out, in which hypothetically one law statute covers the cooperation of transportation carriers and consumers in the area of transportation plan fulfillment (for inland transportation, railroads, automobile traffic, and internal navigation.)

Concerning the various sections of civil law, there are at the present time three methods of legal control of transportation contracts:

The first (the English method) consists of the maintenance of tradition and practice. This method is not usable in the socialist countries.

In the second method, the transportation contracts are regulated by the various civil or trade law codes. At the same time they allow for special regulations in the area of various branches of transportation.

In the third method, all transportation problems are regulated outside the law codes by special law statutes which cover the various branches of transportation.

Both the second and third methods possess certain advantages and disadvantages.

I believe that the use of any one of these methods is more a technical problem than a theoretical legal problem.

From the remarks made by the German delegates at the Dresden Conference, it may be concluded that they see no possibility of regulating transportation contracts under civil law codes.

I believe in this context that the decisiveness of law statutes is to be found in their contents and not in their form of publicatio

It is characteristic that the draft of the Polish Civil Law Code of 1954 did not include the problem of transportation. The discussions held on this draft showed, however, the expediency of a sort of model regulation for transportation contracts under civil law codes.

The new 1960 Polish draft of the civil law codes includes the question of transportation and shipping contracts. In the same way, the Hungarian civil codes provide for regulation of traffic problems. These were only recently published and became effective 1 May 1960.

In the Soviet Union there are also adherents of the regulation of transportation contracts under civil law codes. These include the noted scientists, Professor Vieniedikotov and Professor Tarasov. The well known textbook on Soviet Civil Law, edited by Professor Bratus, also discusses, at the beginning of the chapters covering transportation contracts, the uniform principles which concern all branches of transportation, and also takes up the individual characteristics of the various branches.

Personally, I believe not only in the preservation of one unified traffic law, but I am also in favor of a far-reaching standardization of the contents of civil law statutes where they regulate the various branches of transportation. The various branches have many differences in the area of technology, but fewer differences in the economic area and fewer still in the area of law regulation. This especially applies to the relationship between transportation carriers and consumers. It appears that the following problems are ripe for uniform regulation: the liability of transportation carriers, the time period for damage claims, term of limitation, the regulation of hauling costs, and other things.

Such standardization would mean in practice a relief both for the consumers and for the shipping services which use the various forms of transportation as well as for carriers which come under combined forms of traffic. It appears that technical progress and the increase in transportation safety will make possible a still greater standardization of transport regulations. The Socialist economic system provides the best possible grounds for such standardization.

From this viewpoint, I believe that the regulation of transportation problems by one civil law code, with a simultaneous regulation of the individual characteristics of the different branches of transportation, will bring about a far-reaching standardization of the basic regulations for the different branches.

The Place of Traffic Law in the Socialist Law System

The fundamental differences between civil and social traffic law are to be found in the various relationships between the producers and society as a whole. Here it is necessary to consider the following basic rules:

1) The leading role of the State in the area of the people's economy.
2) The planning system for transport production.
3) Regulations of the goals for the socialist transport economy.
4) New regulations governing the mutual relationship between transportation carriers and consumers.
5) A broad basis for liability coverage by the carrier for both freight and passengers.

The consumer will be drawn into close cooperation for the fulfillment of transport planning, whereby the priority of general national interests will be greater than the interests of individual contractors.

The position of the carriers will be secured with the simultaneous curtailment of those customer rights which stand in the way of the socialist transportation economy. Mutual claims must be made valid by way of direct suit for damages before legal proceedings may be undertaken or the court of arbitration calleddinto session.

In the capitalist system we observe a far-reaching limitation of liability for carriers as a symptom of the huge influence which transportation organizations have in government affairs. This is nonexistent in the socialist system. Moreover, the basic principles of settlement demand, first of all, clear establishment of the fact as to whether the carrier is liable for the damages and must cover their total cost, or whether he is liable at all. At the present time, the system of arbitrary limitations of liability find no foundation in economic fact, as certainly they never possessed one in logic.

The last problem which I would like to touch upon concerns international traffic law. The question arises whether it is possible to adhere, despite the obvious differences, to a universal traffic law, or whether we should work for complete separation of the socialist

from the capitalist system. At the present time, as we know, two different systems are valid in the area of railroad transportation.

In the course of ten years of separation, we observe a reduction in the number of differences, although in few really important points. In other branches of traffic law there has been no separation between the socialist and the capitalist law system. I believe that above all else we must achieve a realization of basic socialist regulations in internal transportation. I do not exclude, however, the possibility of membership by socialist nations in a universal set of conventions for the area of transportation. This would agree with the basic regulations for peaceful coexistence and cooperation of countries of different social and economic systems.

8. REPORT ON THE WORK OF THE OSShD COMMITTEE AND COMMISSIONS

Third Commission. Method for the calculation of operating costs for passenger and freight transportation.

At the request of the Committee of the OSShD, the railroads of the USSR have worked out a preliminary draft for a uniform method of computing operating costs for passenger and freight transportation. This will be used by the OSShD member roads. At the beginning of 1960, it was sent to all member roads of the OSShD, and was taken up at the first conference of experts on the problem of transportation costs, held 9-13 May 1960 in Moscow.

Representatives of the BDZ, MAV, DSVN, DR, MTZ, PKP, SZD, and the CSD, as well as representatives of the Committee of the OSShD and the Secretariat of the RGW Permanent Commission for Transportation, took part in this conference, [Abbreviations not explained in source].

After a general exchange of ideas on the draft presented by the SZD, the Conference agreed upon the following points:

1) It is held to be possible to accept this draft as the foundation for the computation of operating costs in international transportation.
2) Preparation for calculating the operating costs for various types of transportation: freight, passengers, baggage, and mail.
3) Acceptance of a number of directives for the distribution of costs and the amortization procedures for the above named types of transportation.
4) In order to achieve a more exact computation of transportation costs, and for other purposes, it is considered necessary to divide all costs according to the various types of operation: beginning and end operations, train assembly, and reassembly and train dispatching.
5) It is considered useful to carry out, for operations connected with border railroad stations, a cost analysis of typical stations (both with and without freight reloading).
6) The SZD has been asked to submit to the Committee of the OSShD a set of basic regulations for a unified method of computation for transport operating costs for passengers and freight, with due consideration given to the suggestions voted on at this conference.
7) A program has been accepted for future work. It includes the joint working out of the topic: "Completion of a method for computing transport operating costs for passenger and freight traffic," while taking into consideration the following questions:
   a) An inquiry into the cost nomenclature used in the socialist countries, and the establishment of their differences and the possibility of their standardization.
   b) The final ironing out of a uniform method for the computation of transport operating costs for passenger and freight traffic by the member roads of the OSShD.

Method for Ascertainment of the most important performance index numbers for the railroads.

The first conference of experts was held 14-17 May in Moscow to work out a method of ascertaining the most important performance index numbers for the railroads.

Representatives of the BDZ, MAV, DSVN, DR, MTZ, PKP, SZD, and CSD, and representatives of the Committee of the OSShD and the Secretariat of the RGW Permanent Commission for Transportation took part in the conference.

As a foundation for work the members accepted the "Preliminary draft of recommendation for a method of ascertaining the most important performance index numbers for the railroads," which had been prepared by the work group and at the end of 1959 sent to all roads for their consideration. They accepted as well the suggestions which came from the railroad administrations.

With the use of this data, the conference prepared a catalog of index numbers, which the member roads of the OSShD can use for an exchange of statistical material. The conference also prepared recommendations for a method of reviewing the index numbers given in the catalog.

At the same time, the conference decided it would be of value for the Committee of the OSShD to organize future work for the completion of the procedure for the ascertainment of various index numbers by the adopted methods, and for the development of a method for ascertaining the other index numbers. Among other things, the conference pointed out the expediency of further work for the study of a method for the ascertainment of work productivity in railroad service, work in railroad yards, and for the general amount of tonnage hauled.

Draft of a Uniform International Freight Nomenclature.

The second conference of the joint work groups of the OSShD - UIC for the development of uniform international freight nomenclatures was held in Prague 23-25 May. Representatives of the Hungarian, German, GDR, Polish, Soviet, Czechoslovakian, Swedish, Belgian, and French railroads, representatives of the Committee of the OSShD, and the General Secretary of the UIC, took part in the conference.

According to the basic regulations, voted on at the first conference of the Joint Working Group of the OSShD-UIC in Paris 25-27 April 1960, the preliminary draft for the unification of international freight nomenclature (EMNG) was worked out at the conference. The draft consists of four divisions, twelve subdivisions, sixty groups, of which a fixed number are subgroups, and some 440 tariff positions. This preliminary nomenclature draft was prepared with the goal in mind of trying out the use of the selected basic regulations.

The basic regulations for the structure of the EMNG and the preliminary draft nomenclature were sent to the railroads and then taken

up at the conference of the Second Commission of the UIC and also at the conference of the Third Commission of the OSShD. If the desired results are achieved, work on the refinement of the nomenclature draft will be continued.

V. Commission. Border Stations operated jointly speed up international transportation of passengers and freight.

The stormy development of the people's economy in our countries and the continuous increase in the volume of freight shipments have made it necessary for the member roads and the Committee of the OSShD to take vital measures to expedite the shipment of freight and passengers in international traffic.

In this connection the work plan of the Fourth Commission takes up such urgent questions as: investigation and examination of a better way to use cars, a reduction of empty hauls, and improvement in passenger transportation, while keeping in mind increases in train speeds.

From 7 September 1959 to 22 February 1960, regional conferences were prepared and held for the interested railroad groups. At these conferences the extent of export, import and transit shipments for 1960 was agreed upon. At the same time measures were prepared and voted for expediting these shipments. These measures include provisions for an increase in the capacity of through passage of railroad lines operating in international traffic, an increase in handling capabilities at border railroad stations for transfer, better use of freight cars, reduction in empty hauls, speeding up of train traffic with the organization of unit freight shipments in closed trains, and measures for car assistance.

An especially effective measure which will contribute to ensuring the constantly growing number of international shipments is the establishment of a regulatory office for the group of interested railroads. At the present time, the problem is being worked on and has already reached the stage of revision. The groundwork has been concluded, and the draft for the final agreement, as well as the statutes for the regulatory office, have been worked out.

Drafts of the agreement, including the registered and voted supplements and changes, are now ready to be submitted for examination and confirmation to the Minister's Conference at their Fifth Meeting. The Regulatory Office will be a regional organ of the OSShD Committee which will operate in accordance with the agreement for the office structure, its statutes, and its rules and regulations.

Preparation and examination of car circulation in international service will be one of the first steps in the future work of the Regulatory Office. In order to collect certain data for the preparation and examination of car circulation, it was decided already in 1960 to proceed with this work and to commission the preliminary control office already established in Prague to do this work under

the general direction of the OSShD Committee. The work is to be carried out according to the monthly shipment plans for international traffic, and the railroads are to be informed of conclusions drawn from this work.

Within the Committee, the work data from the preliminary office in Prague will be examined so that, to a certain extent, a foundation will be established for the future Regulatory Office.

One of the most important questions of operational work is the formation of jointly operated border crossing stations.

At the present time such stations exist at border crossings between CSSR and the People's Republic of Hungary, at crossings between the CSSR and the People's Republic of Poland, and between the People's Republic of Hungary and the People's Republic of Rumania.

The work results of these stations confirm the fact that it is necessary to set up jointly operated stations at other border crossings, especially at points where main international trunk lines intersect. Wherever this appears to be impossible, at present it is expedient to organize the joint work of all organs of neighboring stations.

These problems can not be solved soon enough by the railroads, and it would be expedient if the transportation officials of the member roads would give special attention to these problems.

In connection with the increase in international passenger train speeds, an exhaustive analysis of train time tables has been started and the necessary measures to handle this matter have been taken. This analysis together with the comments and the recommendations of the Committee has been sent to the railroads.

The new time tables, which were worked out at the WMPS Conference in September 1959, provide for a certain increase in train speeds. However, they do not yet correspond to the possibilities which already exist for the railroads.

Train stops at border crossing stations are still too long. For example:

The Baltic-Orient Express requires 43.5 hours to cover the distance from Berlin to Sofia, but it spends more than six hours of waiting time at only four border crossings.

With the use of organization and technical measures taken by the railroads within just the last few years, the train speed has been increased on individual sections of track.

However, this does not contribute to a corresponding improvement in trip speed. This is explained by the fact that the railroads, after they have increased the speed for individual sections of track, have not considered it appropriate to change the time tables for the total run. Indeed, often the waiting time has been increased at certain stations in order to make it unnecessary to change the connection time for adjoining lines and roads.

The trip speed is also greatly affected by the fact that international trains for the most part still carry passengers in local traffic. This causes not only a large number of stops, but also makes it necessary to keep connections with trains on local runs.

One of the great defects in present time-tables is the unfavorable time of arrival and departure of trains from main stations, especially from stations which serve the major cities in a country.

It is expedient that the arrival and departure of trains from terminal stations which serve these major cities should take place no earlier than seven AM and no later than eleven PM.

The Committee has prepared a thorough and careful analysis of existing time-tables, pointing out the possibility of their improvement, and this has been sent to all the Ministers in order that the decision of the Minister Conference on this problem can be carried out at the WMPS Meeting in August 1960.

For the purpose of still further improvement in international passenger transportation, the possibility and the expediency of diesel passenger train operation along various lines will be examined.

According to the present time-tables (of 29 May 1960) three diesel trains are now in operation along the lines:

Berlin - Warsaw - Brest,
Berlin - Warsaw - Vienna,
Berlin - Karlovy Vary - Prague.

The possibility will be examined for the introduction of diesel trains on the line Prague - Budapest, and on other lines.

It should be pointed out here that it is necessary to make transportation possible without transfer (with the conversion of the wheel trucks for example) for the Carapatian Express, which was introduced 29 May 1960.

This train is of special importance for the development of passenger transportation along the North-South line. Its length from Warsaw to Bucharest, in contrast to the route via Budapest, is shorter by 500 kilometers. This takes on further importance if one considers the possibility of extending it from Warsaw to Berlin and from Bucharest to Sophia with a branch to Constanza and Warna during the summer.

In order to inform the railroads of methods used by the other roads for perparing time-tables, train make-up, control methods, and plan fulfillment, the records obtained from the questionnaires have been published and sent to the member roads, along with final conclusions and recommendations to the member roads for their use.

Concerning the question of the standardization of fundamental rules of train operation, as well as the terminology used in the area of operational services, similar drafts recommendations have been prepared. These drafts were voted upon at the September 1959 Conference and put together into a document. In connection with the constant development of mechanical equipment and increased train traffic, this work will be continued.

In addition, the final text of PPO rules, which became effective 1 January 1960, have been prepared and sent out.

An information report has been written and sent to the railroads. It concerns the main technical developments of railroad service.

Fifth. Commission

The Expert's Conference for the Joint Use of Proving and Test Areas by the OSShD Member Roads.

In Prague, 13-18 June 1960, a conference of experts considered the joint use of existing proving and test areas of the OSShD member roads for scientific research and design work, as well as the construction and the establishment of new, joint areas.

Representatives of the railroads of the German Democratic Republic, the Polish People's Republic, the USSR, and the Czechoslovakian Socialist Republic took part in the conference of experts.

Under consideration of the proposals of the BDZ, DR, DSVN, KRZ, PKP, CFR, SZD, and the CSD, [abbreviations not identified in source] the experts agreed that it is necessary to use the areas jointly. At the same time it was recommended that in the use of existing proving areas (stationary and movable) priority be given to the joint scientific research and design work planned by the OSShD.

The conference also considered it expedient to allow a temporary use of various proving and test areas by other OSShD member roads.

As to the question of newly constructed joint proving and test areas, it was recommended that, at first, a proving area should be developed for the examination and application of continuous rails, and that this should be set up by the Soviet railroads. The GDR, on the other hand, should construct a rail testing installation, and the CSD a circular test track.

Expert Conference in the Area of Economic and Technical Information.

In accordance with the directive by the Fourth Meeting of the Conference of Ministers in Bucharest for the further organization of a Document Center within the framework of the OSShD, the Committee has created a work group of experts for economic and technical information (TOEI), which is composed of representatives from the MAV, DR, PKP, SZD, and the CSD. This group met for the first time in Warsaw 8-11 June 1960.

The most important jobs to be done were considered and established, so that it was possible to prepare a prospective program through 1965, and the work plans for 1960-1961. A uniform work method for the economic technical service of the member roads will also be created. First, this will be on the international scale, and then it will be brought into operation on the lower levels to bring about continual and close cooperation among the railroads.

The work group prepared a draft for the direction of the Economic and Technical Information Service of the OSShD Committee. This draft was voted on by all the member roads and revised according to their rules. The Committee will send out this data in the form of a recommendation.

In order that they may begin the practical cooperation as quickly as possible, the participants in the Conference have prepared preliminary guiding principles for an exchange of document index cards between the member roads. It has been further recommended that from 1 January 1960, every member should prepare indexes of the technical magazines and the technical literature in its country. The results of this work are to be made available to all member roads and to the Committee on index cards.

These measures will make possible a considerable reduction in duplication of documentation work. Moreover, the plan covers the technical job of setting up the decimal classification system for the transportation service, the job of various designations for technical magazines, and also for the direct exchange of books.

Use of Motion Pictures by the Transportation Service.

For a couple of decades now many railroad administrations have used the film as an important teaching, documentary and advertising device. Therefore it is easy to understand why, since its very beginning, the OSShD has been greatly interested in the production and the use of films. In Moscow 16-21 May, the group of experts which was set up in 1958 for the production and use of films in the transportation service, discussed their problems. Representatives of the MAV, DR, MTZ, PKP, CFR, SZD, and the CSD took part in this Third Conference of the Expert Group. At the invitation of the Committee of the OSShD, the director of the executive service of the International Railroad Union (UIC) was present at this conference as a guest.

With satisfaction the delegates at the conference were able to develop further cooperation in all areas of film production and use. The production plans for 1959 were fulfilled by the participating roads. The members established the final theme plans for 1960 and at the same time took up the preliminary production program for 1961.

The first film of joint production "Reinforced Concrete Ties" has been awaited with interest for some time. It was shown and recognized as a valuable visual-aid material for teaching purposes in the area of track construction. This film, which had been produced under the direction of the MAV, with the cooperation of the DR, PKP, SZD, and CSD, showed the great possibilities of an all-around information source from a joint production. After taking the already attained experiences into consideration, preparatory work was established for the second joint film, "Mechanization of Construction and Installation Work for Electrification of Railroads" produced under the direction of the SZD, with the cooperation of the DR, PKP, and SCD. Joint production of two films is planned for 1961-1962. The CSD has the direction of "Continuous Rails," and the DR that of "Mechanization of Loading Operations in the Transportation Service."

The growing film production by the OSShD, by the administrations of member roads, and by the production of joint films, lays a good foundation for further development in film exchange. During 1959,

seven member administrations used the film exchange and a total of 84 films were lent without charge except for the cost of showing.

In order to further increase this exchange, and to make for a better use of films, the members of the conference took the following steps: a film catalog will be published of all films produced by the member roads which are suitable for international exchange. It was also suggested that a Festival of Transportation Films should be organized. During the conference, thirty-two of the newest educational and documentary films produced by the roads were shown to the conference members.

The delegates thus obtained first hand information on the film and could select films for prospective showings.

In the future still more members of the OSShD should use the possibilities given to them by the work of the film experts, and besides railroad films, they should exchange films in the area of motor traffic and road service. The preliminary film work has been done, now it is only a question of using the work in the right way.

Health Programs in the Transportation Service

An active exchange of information is indispensable for the solution of the more important and practical jobs of health programs in the transportation service. Therefore a permanent work group in the OSShD has been formed to bring about the cooperation of the Railroad Health Service. In addition to regular meetings every two years, the work group organizes exchange of scientific information.

The first information exchange of this type took place in Moscow 30 May to 2 June 1960. It covered problems of actual health concerns in railroad traffic. Numerous specialists gave scientific reports and various problems were extensively discussed.

The Soviet and Polish railroads will work on the organization of health care programs for railroad workers. Some lectures took up the problem of color vision, one by the DR, two by the PKP, and there were lectures on the use of color in railroad transportation. Several reports were of great interest. They included those on the problem of health care under conditions of noise and vibration in rolling stock (SZD), the work of the German Reichs Railroad, "A study of performance demands on various types of rolling stock, carried out by means of small radio transmitters under different work conditions,"; "A review of psychological and health conditions of engineers while operating at increased speeds," (SZD); and the report "The care of locomotive personnel from the health viewpoint" (EDZ).

Reports given at the conference revealed a considerable amount of research work, which has paved the way for Health Programs by the OSShD member roads in various areas.

The participants in the conference recognized the necessity of a further exchange of information between the OSShD member roads in the area of railroad health, as well as coordination on health work programs, which are especially acute for railroad transportation.

At the conclusion of the information exchange, the Third Conference of the Permanent Work Group took up concrete questions for the work program of 1960. They include physical fitness requirements for railroad workers, a uniform system for physical examinations, and the organization and equipping of a rescue service. Recommendations were also accepted for the above points. Further, the conference established the procedure for an expanded, reciprocal information and document exchange, and for conditions governing joint scientific research.

The MTZ has now joined the present members of the work group (BDZ, MAV, DR, PKP, CFR, SZD, CSD.)

Sixth. Commission.

Standardization of cars and car parts as a means for the further development of international transportation.

Railroad experience shows that the standardization of cars, both in total construction and individual parts creates favorable conditions for carrying out international transportation. This applies both to better use of the yards by all member roads, and to shortening of delivery time for freight shipments wherever there are various gauges of track in use making transfer of goods necessary.

It is especially important that the cars of the various track sizes are uniform in weight carrying capacity and in carrying surface. Thereby the idle time of cars at loading platforms is lowered, the shunting movements are considerably reduced, and the possibility of freight damage is lessened. Moreover the improvement and maintenance of the cars which operate in international traffic under the auspices of OSShD member roads will be considerably facilitated by the standardization of cars and car parts.

Standardization of design and car construction within the framework of the RGW is of no less importance, since by this means favorable conditions are brought about for the specialization and cooperation of production. With standardization of cars, the abilities of the various countries, can, without dissipation of their efforts, be charged with design and construction of cars of various types in which they have already reached the highest point of development.

After considering the above matters, the Sixth Commission of the Committee of the OSShD directed itself to solving these problems since they are of very great importance for the People's economy.

In order to prepare proposals for the standardization of freight cars, the Sixth Commission has collected the necessary data regarding international freight shipments and their specific volume as well as the present materials standards. An ultimate parameter for standardization cars will be prepared from the final analysis of the data.

At first, the fundamental parameter for freight cars which haul bulk goods will be established. The following cars will be considered:

a) Four-axle freight cars with a capacity of 60 tons.
b) Four-axle tank with a capacity of 60 cubic meters cars for hauling oil and oil products.
c) Four-axle open cars for hauling coke, coal, ore, liquids, and other materials with an approximate specific gravity of 1.2.
d) Four-axle flat-cars for hauling goods with a specific gravity greater than one.

Technical standards for car design will be established from the parameter for standardized cars. The above named types, and the parameter for freight cars, were accepted by the conference of the Third Section of the RGW for Machine Construction Car Design and Construction.

In order to improve passenger comfort, the basic parameter and the seating arrangement for a standard passenger car with seats for local traffic have been prepared for the OSShD member roads. Based upon this parameter, it will be possible to produce a passenger car sufficiently long and wide, 24.5 meters by 2.88 meters, without having to narrow the car frame at the ends. This will facilitate car construction and will achieve better conditions for both getting in and out of cars at high platforms, and will make possible mechanical exterior cleaning of cars. This type of car is widely used by OSShD member roads.

Moreover, the Sixth Commission of the OSShD Committee has selected container types and has prepared the basic parameter and technical standards for shipping containers for the OSShD roads. This goes along with a thorough examination of carrying capacities and loading surfaces for railroad flat-cars and trucks, with the goal in mind of using these in the most rational way for the hauling of containers. At the present time, the railroads of the GDR and the USSR have already designed such shipping containers.

Considering the importance of running parts for cars as well as the guarantee of safety of operation and the improvement of cars by all member roads, the Sixth Commission has concentrated its attention on the standardization of both individual and main car parts. With this goal in mind, technical standards for a uniform wheel truck for freight and passenger cars has been worked out. Three important problems are solved by such a wheel truck:

First, a standardized wheel truck for passenger cars will make possible speeds of 160 kilometers per hour, and for freight cars speeds of up to 120 kilometers per hour.

Second, through the use of a uniform wheel truck, questions of standardization of coupling parts will be solved.

Third, wheel trucks will be designed so that they can be used for cars of 1435 mm and 1524 mm guage with wheel rims of corresponding gauges.

In consideration of the fact that almost all railroads use axle roller bearings to a great extent for passenger trains, and that in order to produce roller bearings on automatic assembly lines, the number of types must be reduced to a minimum, the Sixth Commission has conducted a necessary examination of the various types and measurements of roller bearings. A proposal has been prepared for the standardization of a

type of cylinder axle roller bearing with measurements of 120 mm and 130 mm diameter for freight and passenger cars, respectively.

In order that beginning with 1961, uniform roller bearings will be used by the railroads, necessary standards for the production of roller bearings, as well as for their improvement have been given to all OSShD member roads.

In order to improve travel culture by the OSShD roads, the Sixth Commission of the Committee has prepared proposals for the interior fitting out of passenger cars.

Along with these proposals, technical standards for air conditioning and ventilation equipment for passenger cars, as well as for refrigeration equipment for dining cars have been set up and the types and the basic parameter of these installations has been chosen. Moreover, technical standards for equipping passenger cars with fluorescent lighting have been worked out, and specifications for the interior fitting out of all sleeping cars used by OSShD member roads have been set up.

With the continued increase in train speeds and loads, our member roads have the job of creating the necessary braking capacity. This will guarantee safety of operation at high speeds and will insure train stops within the established braking length without causing greater longitudinal stresses within the train.

To answer this challenge, the Sixth Commission of the OSShD Committee has set up technical standards for a uniform brake for passenger cars with speeds of up to 160 kilometers per hour, and for freight cars with speeds up to 120.

Technical standards, providing for a uniform brake, will be used both for electric and pneumatic control systems.

The Commission has accomplished an important task in the preparation of technical standards for automatic coupling devices for passenger and freight cars of the OSShD roads. Based upon these standards, the railroads of the GDR, Poland, USSR, and the CSSR have approved a preliminary draft for a uniform coupling device. At the present time, the technical design of this coupling is being worked on. Already this year, a trial model of this standard coupling has been built and tests have begun.

Standardization of vehicles has therefore become an important problem for our international organizations which work on such technical railroad problems. Above all it is a matter to be considered by the Third Section of the RGW for Machine Construction, the Transportation Commission of the RGW, the UIC, and the ORE.

In order to avoid a duplication of work, and to eliminate the danger of two different directions being taken for the solutions of these important questions, it was necessary to work together with the already named organizations and to maintain constant contact with them. Another very important problem is the organization of cooperation between the OSShD and the Transportation Commission of the RGW and the Third Section. In this way a continual coordination of work, better cooperation, and the exchange of new information are achieved.

The main job of the Sixth Commission of the OSShD consists in the selection of the most desirable types of cars, their parts, and their parameter from the viewpoint of the railroads as a consumer of vehicles. This takes into consideration necessary qualifications for passenger comfort, and also economy in freight and passenger transportation. The Third Section of the RGW will take over the development of vehicle construction and production, using the specifications, the technical standards, and the main parameter prepared by the OSShD as a guide.

References to the most important problems have been made. At the present time a number of these have already been solved, either with the cooperation of or direct participation by the various organizations. Among those solved are such problems as automatic coupling devices and theparameter for passenger cars of the B Type in international transportation. Conferences have also been held to answer these questions under the guidance of the UIC, and with the participation of representatives from the OSShD Committee. Both organizations exchanged information and established the fact that technical standards and the basic parameter are essentially the same for both organizations.

Moreover, the question of the use of vehicle clearance and vehicle limitation standards have been given to the UIC for processing by the OSShD. This is in order that their standardization will be taken into consideration by all European railroads. The problem is still being worked on by the UIC.

In order that through a precise division of work, cooperation may be cemented and the solution of car standardization problems speeded up, a revision of plans for research and development work for the future had to be taken up by the OSShD, and by the Third Section of the RGW.

The 1 SM which clearance profile, presently accepted by the OSShD member roads, with a rail axle interval of 4000 millimeters, represents a big development in the railroad service. It is the first time, to such an extent, that a joint work will be carried out for almost 250,000 kilometers of track by all the OSShD member roads. At the present time, the work of the Commission and the expert's group has to be directed to the more exact establishment and ascertainment of individual measurements of the 1 SM clearance profile. They must also consider the introduction of electric locomotion and the measurement for vehicles on the basis of vehicle guidance while the vehicle is in operation. The operational and transportation advantages of new car limitations are considerable, and new possibilities for effective improvement of passenger comfort, etc., have been placed in the hands of car manufacturers.

A start for the standardization program has been made in the area of passenger cars with the standardization of the Type B passenger car, first and second class, for international transportation, which has an overall length of 24,500 mm. The job of the Sixth Commission

in this area will consist in working out the basic parameter for other types of passenger cars, including sleeping, dining, reclining chair cars, baggage cars, and postal cars on the basis of the already established decisions.

These cars must show both in operation and transportation qualifications the best performance index numbers.

In the area of standardization of main and individual passenger car parts, problems which must be examined more closely and solved are:
-- The development of a uniform wheel truck for passenger cars which operate at high speeds.
-- The development of electric pneumatic brakes for high speeds.
-- The development of a way of lighting passenger cars from a central power supply.
-- The development of air conditioning and forced air ventilation equipment, etc.

A no less important job for the Sixth Commission is further work for the standardization of freight cars and their parts. Development work for newer types of uniform freight cars must take into consideration the most progressive, economic and technical, performance index numbers, and above all else the traveling speed and a reduction in car weight.

Moreover, it must permit the construction of uniform cars and the mechanization of loading operations. Within the near future, work must be carried out for the selection of types and the preparatory steps taken for the establishment of a basic parameter and measurement for uniform cars, and also for their main and individual parts.

The use of standard containers and paletts in international traffic has grown considerably, not only among the railroads, but also among the other transportation carriers. In this area, further work on the standardization of containers and paletts, as well as loading and unloading equipment must be carried out. This work must take into consideration coordination with the different transportation carriers, such as, railroads, trucks, and ships.

The OSShD organization has been working for only three years, and its Committee and the Commission have only been in existence for two and a half. In spite of this short time, resolution and recommendations have been accepted by the Sixth Commission which without doubt will contribute to the improvement of international shipment and will build a foundation for further successful work in the area of vehicle standardization. This, however, is only a beginning of the great work which is still to be accomplished in order to insure constantly growing technical progress for the railroads in our socialist countries.

Seventh. Commission

Protection for Safety and Communication Installations against Conductor Disturbances in AC Current Operation.

Within the past year, two important conferences were organized

by the Seventh Commission. In July, the conference of Communication Experts was held in Moscow, and in September the Conference of the Seventh Commission was held in Warsaw.

The preparation for a joint approach to the problem of introducing radio, TV, and radar installations into railroad operations was begun in the area of the Communications Service. At the present time there are 17 classifications for the different areas of radio and TV use by railroads. This work, however, has not been completed, and will be continued.

Problems of the safety and communications service are caused by the progressive electrification of the railroads. In order to avoid disturbances in the safety and communications installations by this electrification, the Seventh Commission has put together and ratified certain preliminary recommendations for the protection of communications installations against conductor disturbances along roads using AC current. These recommendations have a continuous importance to the area of SCB (Safety Service and Signalling). They are important also for establishing general principles for the designing of switches and installations for electric signal boxes with power supplies for electro-magnetic relays, current regulators for signal boxes, switches for different types of signals, etc. General principles have been established for the standardization of signalling.

Important among these is the modernization of the signal system to indicate main signals at high speed. A uniform signal system will be worked out for speeds of up to 160 kilometers per hour. This system, which provides for a speed indicator and an up-track indicator on one signal mast, consists of four intermediary indicators, for speeds of V_1 = 10 kilometers per hour up to V_4 = 110 kilometers per hour. After exhaustive tests by scientific institutes, flash type signal lights have been retained. These will operate with two different flash frequencies.

At the present time, further tests are being carried out to determine the choice of an auxiliary signal. Without doubt we have to consider, along with this modernization, the already existing installations which have been in operation for some time.

Therefore the work of the Commission can not be limited only to the most advanced installations. And the exchange of information should be carried forward even more strongly now than in the past.

These exchanges of technical information resultsin regulations for the maintenance of international railroad communications connections, and similar regulations for the railroad teletype connections. These regulations contain the manner and times for carrying out tests, control measurements, and directives for the repair service, etc.

Regulations for the exchange of international service telegrams have also been worked out for the OSShD roads. They are effective as of 1 January 1960. The main trunk lines between member roads are most important. At the moment, regularly scheduled messages are being sent between Warsaw and P'yongyang.

Along with the adoption of the newly introduced devices, the Seventh Commission has to consider the economic side of the problem.

Satisfactory solutions to these problems can only come about through close cooperation among all member roads and with the help of our scientific institutes. It is of utmost importance to consider the use of new devices such as semi-conductors, contactless switch elements, plug type exchangeable relays, and other parts. And we must also consider automation in the communication service and the convenient use of radio and TV.

Eighth Commission. Electrification Work and the Use of the Most Efficient Means of Train Locomotion

During 1959 and 1960, the Commission worked out technical recommendations for the most important problems concerning the introduction of electric and diesel operation on the basis of previous actual railroad experience. These methods will provide for the speedy development of new means of train locomotion as well as for an improvement in overall efficiency. Furthermore, proposals for the standardization and completion of motor carriages were submitted, and the exchange of technical data of interest to the OSShD member roads was organized. At the present time, electric operation is being introduced extensively by the BDZ, MAV, DR, KZD, KZR, PKP, CFR, SZD, and the CSD [abbreviations not identified in source].

In this connection, both the lowering of costs and the speeding up of the change-over to electric operation are of great importance to the railroads.

Recommendations for the use of reinforced concrete construction and mechanization of production and installation work for the electrification of the railroads have been prepared by the Commission. Experience shows that AC current of 50 Hz, 25 [sic] volts is the most efficient. This type of current makes it possible to lower costs, to simplify power installations, to useeless copper, and to develop electric trains with the highest specific efficiency and speed.

A number of railroads (BDZ, MAV, DR, KZD, CFR, SZD, CSD,) have started to introduce this type of current, or have started plans for its eventual introduction. From the basis of experience by the USSR railroads, the Commission has prepared recommendations for the choicee of vehicles, switches, and power supplies for this type of current.

Moreover, the Conference of the Commission established technical data for the standardization of AC electric locomotives, which correspond to the requirements of several of the OSShD member roads. Recommendations were also prepared for protection standards for underground metal installations against the effect of stray AC currents on railroads, as well as recommendations for the spacing of voltage carrying contact wires and ground terminals. Proposals were also prepared for power supply installation designs for electric track operations and for principles of automation and distance control for power supply installations. The first drafts for these proposals and recommendations, as well as the results of the research on automation and distance control will be taken up by the Conference of the Commission in October 1960.

Along with electric operation, diesel operation is being widely introduced. Almost all of the OSShD member roads have either made preparations for the use of diesel trains or have already brought diesel locomotives or internal combustion engines into operation. The use of the experience of those roads already using diesel trains has been of great help to diesel operation and to the development of a complete manufacture. In 1959, the Commission prepared recommendations for a time sequence and a system for improving diesel locomotives, and for development and maintenance regulations for internal combustion locomotives and trains. At the conference of the Commission in 1959, recommendations were accepted for expedient technical data and production of diesel trains for various railroad uses.

The Working Group of the Commission prepared drafts for the technical type standards for the delivery of diesel locomotives and motor carriage trains. With the increase in deliveries of diesel locomotives and motor carriage trains from one country to another, it was necessary to prepare technical style standards, according to which the technical delivery conditions for the desired type of vehicles were easy to establish. These technical standards contain requirements for technical documents, procedures for approval of plans, procedures for examination of goods, production surveillance, conditions for testing the entire motor carriage train and its main parts. They also contain liability requirements for developing diesel locomotives or motor carriage trains, to become effective at the time of the order.

During the information exchange, the data of the member roads on the results of diesel operation from 1958 to 1959 were gathered together, evaluated and sent to all member roads. Moreover, the member roads were supplied with recommendations prepared by the railroads of the People's Republic of Poland for the most expedient type of roller bearing for locomotives, recommendations prepared by railroads of the USSR for the most practical type of cooling system for diesel locomotives, recommendations from the railroads of the USSR and the GDR for the prevention of explosions in engine sections, and recommendations from the railroads of the GDR for the motor placement in in diesel locomotives. Information prepared by the Working Group of the Commission concerning experiences in the use of greasing devices to reduce wear and tear of rails and wheels along curves was also sent out, as well as information on the use of diesel fuel with a high sulpher content. Special attention has been given to the standardization of power vehicles in order to solve problems of specialization in the manufacture of these vehicles. The vehicle need of the OSShD member roads from 1961 to 1965 was sent out. This will make it possible in the near future, for the Conference of the Third Section of the RGV Transportation and Machine Construction Division, to consider the problem of standardization of diesel locomotives types and the specialization of their manufacture.

Standardized technical data, accepted by the Commission, for AC current locomotives and for motor carriage trains have been handed over to the Third Section with the request that the problem of special-

ization of their design and manufacture be investigated for OSShD member roads. At the present time, uniform technical data for DC current locomotives and electric trains have been prepared, and the need for these vehicles for the near future has been ascertained. Moreover, the standardization of various apparatus for electric vehicles is being worked on. The railroads of the USSR have worked out technical purchase standards for electro-pneumatic contact transmitters, while the railroads of the GDR are working on the technical documentation of standardized electro-pneumatic contact transmitters for electric trains.

Various efficiency measurements are also being studied for new methods of locomotion. The railroads of the GDR have completed an analysis of the economic efficiency of the newer types of train locomotion, and they are now working on a method for drawing up charts for an economic and technical comparison of the various types of locomotion.

The work group is preparing, on the basis of publications and data from the member roads, information on the present state of area problems yet to be considered by the member roads. These are among questions taken up by the Conference of the Commission and the Experts Conference.

In 1961, the work of standardization of locomotives and the specialization of their manufacture will be carried out jointly with the Third Section of the RGW, Transportation Machine Construction. The results of 50 H_z, AC current operation, as well as the use of semiconductor static current changers for electric locomotives, self-powered cars, and bogies will be investigated. The study of the use of hydraulic power transmissions for diesel locomotives and motor carriage trains and preparation of related recommendations has been taken up in the Committee's work program. Moreover they intend to investigate the results of gas turbine locomotive operation as well as to prepare proposals for the expediency of their use. In this connection, since at the present time the traffic picture is still governed to a large extent by steam operation, it has been proposed that recommendations be worked out for the modernization of steam locomotives, which would make them more economical in operation and lower their fuel consumption. This would include recommendations also for principles governing the development and reconstructions of steam operation installations while keeping in mind the future conversion of the roads to electric and diesel operation.

The active participation of the railroads in working out different questions, as well as the timely delivery of data will make it possible to increase the quality of cooperation in the area of adoption to new methods of locomotion in railroad operation.

Ninth Commission. Experts Conference on Tracks, Track Fastenings, and Rail Switches.

From 25 April 1960 to 30 April 1960, a Conference was held in Berlin with participation of the DR, KZD, PKP, SZD, and the CSD, which took into consideration scientific research up to now on the following problems:

1. Classification of track defects. A uniform classification of track defects and damages has been prepared with their schematic presentation. A catalog of track defects was later drawn up.
2. Purchase conditions for goods from unrefunded steel.
A plan has been set up for the technical manufacture and purchase for rails made from unrefunded steel. This applies to rails in all weight categories. Tests for rail purchase in the rolling mills are especially considered. This goes along with payment regulations, standards of manufacture, and technical requirements.
3. Standardization of rail switches. An agreement has been reached for the standardization of three switches with various cross sections and gradients.
4. Standardization of track profiles. Increasing demands placed on rails require heavy profiles in the future. The participants in the Conference agreed wholeheartedly that the standardization of a light profile is no longer feasible. A new track of high carbon steel with weight per meter of 50 kilograms has been proposed, and the exact cross section has been prepared.

For the future, two heavy track profiles of 60-65 kilograms per meter have been proposed. The Conference agreed that the R 65 profile was the most economic heavy profile.
5. Operational tests for tracks. For this problem, the conference referred back to a report from the SZD and its large amount of experience. These proposals for a uniform method of carrying out operational tests are to serve the purpose of ascertaining the most favorable technology of manufacture, the best tempering processes for rails, and good rail stability.
6. Standardization of rail fastenings. Due to the complexity of this problem and the number of different rail fastenings now in use, the Experts Group were of the opinion that it was necessary to study the fundamental requirements for rail fastenings.
7. Protecting tracks against corrosion. The DR gave a report made from data obtained from OSShD member roads. Sections of track which are especially endangered, such as tunnel sections, were pointed out, and various methods of corrosion prevention were discussed.
8. The Work Program provides for further scientific research and preparation of recommendations for the following problems: rail replacement procedures, track lubrication, economic grades, geometric measurements for simple switches, and schematic drawings for switch locks.

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