

reporters on each question are appointed to review all reports submitted, to summarize the practice indicated, and to draft a set of conclusions which represent the majority opinion relative to various essential phases of each subject. These general reports are supposed to be distributed prior to the meeting of a Congress. The business sessions of the various sections of a Congress are devoted to a consideration of the conclusions submitted by the general reporters. Naturally, many amendments are proposed before the conclusions are finally adopted by the section particularly interested in a given subject. The conclusions as reported by the various sections are submitted at the final general meeting of a Congress, where they are considered for final adoption. The discussions, conclusions, general work of the Congress, and a description of the excursions, entertainments and the exhibition are published as the Proceedings of the Congress.

At the Third International Congress a total of 140 reports was presented by reporters from nineteen national governments, nine Questions and ten Communications composing the programme. Nine general reports by British engineers were prepared relative to the Questions. The meetings of the Third Congress were well attended; the total attendance being between 2,500 and 3,000. The Congress was so conducted that the proceedings of the various sessions, although carried on in the three official languages of the Congress—English, French and German—were interesting and instructive. By having present expert interpreters, those in attendance were made acquainted with the remarks of members from all countries without any material delay in the progress of the meetings.

The exhibition was divided into four divisions: road materials and machinery; traffic; models, maps, drawings and publications; and historical data. The first division comprised 42 exhibits of the principal types of materials and machinery employed in Great Britain and on the Continent.

The practical influence of the Congress on the development of administration and organization of highway departments and the improvement of roads and pavements will depend to a marked degree upon the extent of the adoption of the principles and recommendations contained in the conclusions of the Congress. The conclusions, although expressing in many instances the fundamentals of modern highway engineering practice, nevertheless will repay careful digestion by every American interested in good roads. Unfortunately, American engineers and highway officials have not universally adopted many of the fundamental principles laid down at the International Road Congresses. Among the 83 conclusions adopted at the Third Congress, which are of especial interest to those having charge of highway work in the United States and Canada, are the following:—

First Question—Planning of New Streets and Roads.

"As a general principle, it is better that new main roads be constructed to pass outside rather than through towns, and that, where an existing main road passing through a town is unsatisfactory for through traffic, it is often better in preference to widening an existing narrow main road through the centre of a town, new roads should be planned according to the principles of the science of town planning.

Second Question—Types of Surfacing to be Adopted on Bridges, Viaducts, etc.

"On short bridges in town or country it is desirable that the surfacing should be the same as that on the adjoining streets or roads.

Third Question—Construction of Macadamized Roads bound with Bituminous (including Tarry and Asphaltic) Materials.

"Confirming the conclusions adopted in 1910 by the Second Congress (Brussels, second question), which called attention to the advantages of a dry foundation and a sound subsoil, the Congress especially insists upon the great importance of efficient foundations in the case of road crusts bound with bituminous (including tarry or asphaltic) binders for the following reasons:—

"The road crust being expensive, it is important to give it a base which will increase its life.

"As the weight, speed and intensity of the traffic continually tend to increase on roads considered worthy of such a crust, it is best to provide a foundation which has been so constructed as to secure for the crust the best possible conditions of resistance to wear.

"It is agreed that it is absolutely necessary to carry out repairs, in the case of all bituminous (including tarry and asphaltic) road crusts, immediately the necessity for them arises.

"The complete renewal rendered necessary by wear must be carried out immediately the depth of the road crust is below a given limit of safety, or when its waterproofing qualities have become so poor that the road will unduly suffer from climatic conditions.

"In the mixing method the stone must always be dry, and if necessary it must be heated.

"One must never employ road rollers which are too heavy.

"Sufficient information is now available to enable engineers to select and specify bituminous binders which will have no prejudicial effect upon public health, fish life, or vegetation; but which, on the contrary, will conduce to conditions of considerable hygienic advantage.

Fourth Question—Wood Paving.

"Hard woods give varying results, according to local circumstances, and it does not appear desirable to recommend them for roads with intense traffic in large cities, unless some means are devised to effectively prevent the rapid destruction of the joints and the resulting destructive effect on the concrete below.

Fifth Question—Methods of Lighting.

"Every vehicle, whether standing or moving, should carry or show a light of sufficient power at night which can, except when specially authorized, be seen from the rear as well as from the front of the vehicle.

"Every motor car must carry after nightfall two lighted lamps in front and one at the back; if it is able to move at a high speed it must be fitted in front with a headlight of sufficient illuminating power to light up the road or path for at least 50 yards to the front. In inhabited places, where the ordinary lighting is sufficient to allow motorists to see their way and to be easily seen, the light of the headlights must be limited to that of the ordinary lamp.

"One and the same color should be universally adopted as the color for danger signals.

"It is desirable that each Government should do away as soon as possible with colored lights on automobiles.

Seventh Question—Regulations for Fast and Slow Traffic on Roads.

"That all regulations for the control of road traffic should be based on the principle of allowing the speed practicable for each different kind of vehicle consistent with public safety, general convenience, and the normal wear of the road.