Pavement management systems are being used by an ever increasing number of highway agencies throughout the world. Such systems furnish worthwhile answers, however, only if the inputs are adequate. Hence more stringent demands for objective descriptors of pavement characteristics and of the precision and accuracy of their measurement have increased sharply of late.

Methods of measuring pavement friction, texture, roughness, and ride quality have been used for a long time as means of judging the quality of pavement surfaces as controls of new construction and as criteria of the necessity for repair or reconstruction. Such measurements also served as a means for accumulating knowledge about the suitability and durability of materials and construction methods. Various methods of measurement were developed, usually independently, by various agencies and researchers and in most cases they served their originators adequately in attaining their limited objectives. Much was learned from their application about the fundamentals affecting the performance of pavement surfaces.

Soon it became evident, however, that an exchange of knowledge and experiences would be beneficial to all parties involved. This led to the convening of an international Skid Prevention Conference in Charlottesville, Virginia, in 1959, the control of the slipperiness of pavements in wet weather being the most urgent concern of highway engineers at the time. The most important result of this conference was the recognition that in order to transfer knowledge more effectively, standardization of commonly used measuring methods was imperative. This would also relieve individual agencies from the necessity of developing their own instrumentation and would encourage industry to provide at least the more commonly used devices. In the United States this lead in 1960 to the establishment by ASTM Committee E17 on Skid Resistance (later to become the Committee on Pavement Management Technologies). The National Academy of Sciences added to its Transportation Research Board a Committee on Vehicle Pavement Interaction.

Other countries fostered similar undertakings and PIARC (the Permanent International Association of Road Congresses) established a Technical Committee on Surface Characteristics. International cooperation was maintained by periodic conferences, among them in 1968 the International Colloquium on the Intereletion of Skidding Resistance and Traffic Safety on Wet Roads, organized by the Technical University Berlin (West). Numerous smaller conferences took place here and there, with gradually increasing emphasis on other surface characteristics besides skid resistance. This trend also was reflected in the programs of the World Road Congresses and the meetings of the Transportation Research Board, as well as in the literature. The Transportation Research Board organized a Second International Skid Prevention Conference in Columbus, Ohio, in 1977, but despite its name its program reflected the growing trend of concern with all characteristics of pavement surfaces.

In the meantime international cooperation had led to closer ties among PIARC, ASTM, and the Transportation Research Board through crossmemberships and the exchange of organizational representatives. This cooperation led to the organization of the First International Symposium on Surface Characteristics. The papers in this volume were presented at this symposium and deal with the various characteristics of pavement surfaces, the methods of measuring and interpreting them and how to apply the resulting data in pavement management. The volume serves as a record of the symposium and makes the papers available.
to a broader public. The symposium was conducted in English and French, with simultaneous translation into both languages. To aid French speaking readers the PIARC Committee has provided resumes of the papers in French which appear in a special section in the back of this volume.

The symposium was sponsored jointly by ASTM through its Committee E17 (Rolands R. Rizenbergs, chairman) and by PIARC through its Technical Committee on Surface Characteristics (Jean Reichert, chairman). Cosponsors were the Transportation Research Board and the Federal Highway Administration. Serving as host and organizer was the Pennsylvania Transportation Institute of The Pennsylvania State University. A great number of people contributed to the success of the symposium which drew almost 200 attendees from 18 countries around the world. Special recognition is due J. J. Henry and James C. Wambold of the Transportation Institute as organizers and for arranging the exposition and demonstrations of theme-related equipment.

Appreciation is also due to the many individuals in the PIARC and ASTM organizations who handled the various details which invariably attend such an undertaking. Special thanks are due to the staff manager of E17, Martha Kirkaldy, who coordinated the individual efforts and took care of everything necessary for a smooth flow of events during the conference. Much appreciated, particularly by the chairmen of the symposium, was the contribution of Patricia Downey of ASTM as interpreter during the informal aspects of the conference as well as during the regular and joint meetings of E17 and the PIARC Committee.

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