Proposed Experimental Composite Pavements

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•THE Committee on Composite Pavement Design believes that it is impractical at this time to conduct experiments of a type that would produce design information pertaining to all types of composite pavement. It does appear to be appropriate, however, to perform experiments in which composite pavements as a class are compared with conventional pavements and from which a design of composite pavement whose performance is equivalent to that of a conventional pavement may be deduced. If these experiments show that there are advantages to composite pavements, further experimentation will be recommended in which other specific design variations may be studied.

The specific objective of the overall program recommended by the Committee at this time is as follows:

> To determine, through a series of experiments over different soils and in different environments, various designs for composite pavements that may be expected to exhibit the same performance as specified designs of conventional rigid and flexible pavements. When such information as to equivalent design is available, future choice of pavement type should be based on cost considerations.

The Committee proposes that the design variables in each experiment consist of (a) base thickness and (b) surface thickness. If more than one type of base or surface is desired, either two experiments may be conducted or a more elaborate single experiment may be set up.

The following recommendations are advanced for the design of the experimental sections:

1. Uniform foundations are essential for obtaining comparison of performance between the various composite and the control sections. Special care in the selection of sites and in the subsequent construction process will be necessary to assure uniformity of support.
2. The length of the test sections should be at least 600 ft and preferably less than 1,000 ft.
3. After selecting the type of base to be used, a design which will provide a pavement structure capable of performance equivalent to an adjacent conventional pavement should be made. Thickness of base and surface for an equivalent design is thus established.

In HRB Correlation Circular 473, five suggested schemes for arrangement of experimental pavements are illustrated. Choice of the experimental designs is based on two levels of each variable; that is, two base thicknesses and two base types. The choice of actual thicknesses, types, strength of materials, etc., should be determined by the agency that will conduct the experiment.

State highway departments interested in building experimental composite pavements can be assured of the full cooperation of the Bureau of Public Roads in planning and financing such projects.