

REPORT OF COMMITTEE ON RIGID PAVEMENT DESIGN

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At the 20th Annual Meeting (1940) of the Highway Research Board a general description was presented of an investigation of "Joint Spacing in Concrete Pavements" that was being instituted as a cooperative research between the respective highway departments of California, Kentucky, Michigan, Minnesota, Missouri and Oregon and the Public Roads Administration. In each State an experimental pavement several miles in length, embodying the experimental features has been constructed and kept continuously under observation. All of the projects have been described before the Board with the exception of that in California (see Vols. 20 and 21, Proceedings of the 20th and 21st Annual Meetings). In addition to these experimental pavements in service in the several States the original program included a study of the structural efficiency of transverse joints of the weakened-plane type to be made by the Public Roads Administration.

Briefly, the experimental features common to the six State projects consist of a series of plain and reinforced concrete sections in which the joint spacing is varied. The plain concrete sections have transverse contraction joints at relatively close spacing (15 to 25 ft.) and expansion joints of 120, 400, 800 and 5280 ft. The reinforced sections have expansion joints at 120 ft. spacing with one intermediate contraction joint.

In general, load transfer devices were used in all expansion joints but were used in only part of the contraction joints of a given project in order to determine whether or not load transfer is needed with closely spaced contrac-

tion joints of the weakened-plane type. Several of the States included in their projects additional experimental features of design that were of particular interest to them. These features are described in the reports previously published.

During the three or four years since these pavements were constructed measurements and observations have been made of: (1) daily and seasonal variations in temperature, (2) daily, seasonal and progressive or permanent changes in the widths of the expansion and contraction joints, (3) changes in elevation of the pavement, especially with respect to faulting at the joints, (4) the general condition of the pavement and joints.

Progress reports describing the condition of the pavements in the respective States and presenting the data collected up to this time were to have been presented at the 24th Annual Meeting. However, the meeting was not held and it has not proved feasible to prepare for publication in the Proceedings of the 24th Annual Meeting the six progress reports submitted by the States which with the report of the study of weakened-plane joints by the Public Roads Administration made up the proposed symposium. It is expected that these seven reports will be published later, either as a separate bulletin or in the next volume of the Proceedings.¹

¹ For a report on the study of weakened-plane joints see "Structural Efficiency of Transverse Weakened Plane Joints" by the Division of Tests, Public Roads Administration, reported by E. C. Sutherland and H. D. Cashell, *Public Roads*, April-May-June 1945.