

EDITORIAL COMMENT

A Review of 1939 and a Glance Into 1940

AS SHOWN elsewhere in this issue, the total volume of signaling construction completed and placed in service in the United States and Canada in 1939 exceeded that for the year previous. During the early months of 1939, general business conditions were adverse, and, as a result, railroad business was far below normal. Aside from highway-railroad crossing protection installations that were financed primarily by Federal funds, new signaling construction was limited to a comparatively few projects. In the second quarter, business conditions started to improve and during the last four months of the year railroad traffic increased and net earnings improved rapidly.

An increase in the number of trains being operated soon showed the need for improvements and additions to signaling, especially where these new facilities would effect reductions in operating expenses. For these reasons, several projects which had been planned previously were authorized and rushed to completion. Others are still under construction at this time, and further projects are planned and authorized for 1940. Included in this work for the coming year are some extensive C.T.C. installations, as well as new automatic block.

During the last several years while train speeds were gradually being increased some roads have moved signals to increase block lengths to accord with increased train braking distances, while other roads have, as a temporary measure, introduced over-laps or changed controls to repeat the Approach aspect on two or more signals in approach to one displaying the Stop or the Stop-and-Proceed aspect. These temporary expedients reduce track capacity, result in unnecessary train delays, and leave extra signals in service to be maintained.

The year 1940 should see these conditions corrected on many territories. Rather than reconstructing and moving a lot of antiquated apparatus, some roads are installing new equipment throughout, including code controls, which will pay for itself in reduced maintenance and operating expenses, and, furthermore, will result in fewer train delays caused by signal failures resulting from defects. Two extensive projects of this nature are now under way and others are proposed for the coming year. Thus, although activities of the signal manufacturers and field construction forces were at a low ebb during the opening months of 1939, improvement developed rapidly throughout the remainder of the year, and prospects are bright for 1940.

Of the new apparatus and equipment installed extensively during 1939, perhaps the most important is the d-c. continuous coded track circuit control system by means of which the various aspects of wayside signals can all be effected by circuits on the rails rather than

using line circuits for part of the controls. The elimination of line control circuits obviates failures caused by lightning, as well as breaks and crosses in line wires. Operation of such a system from battery supply, of sufficient capacity to tide over any ordinary outage of a-c. supply, is considered to be a desirable characteristic by many railroads. Another advantage of the new system of control is that track circuits up to 15,000 ft. in length can be operated successfully, whereas three or more d-c. track circuits would ordinarily be used in blocks of this length. When installing such a system, provision can be made for the control of continuous cab signaling, either as a part of the project or as an addition at a later date.

Conflicting opinions have been expressed recently whether the vast majority of the single-track signaling now in service conforms with certain of the new I.C.C. requirements with respect to the arrival of trains at signals displaying the Stop or the Stop-and-Proceed aspects without previously having encountered signals displaying Approach. One railroad has developed and installed a system of control with four aspects which is said to obviate any probable conflict with I.C.C. requirements. Regardless of whether the contentions have merit insofar as safety or efficiency of track capacity are involved, development is under way to devise simple and economical systems of automatic-manual control by means of which the station-leaving and station-entering signals can be controlled normally from a central point, thus permitting the direction of train movements by signal indication without train orders, which would include the advantages of centralized traffic control except for the power operation of switches, and this could be added at various locations as needed. A point of importance is that, on practically all new automatic signaling planned for single track, the signals in the vicinity of switches should be located as required for centralized traffic control so that no expensive changes need be made when installing C.T.C. at a later date.

The issuance of the new Interstate Commerce Commission requirements concerning signaling, effective as of September 1, 1939, was, without doubt, the outstanding event of the signaling field for the year. Whether the expenses of making the tests and inspections and recording the results as required can be justified by improved safety in the form of reductions in the number of false clear failures, remains to be seen. One benefit of the tests, which should be evident on many roads, is a reduction in the number of train delays caused by signals displaying Stop aspects due to inadequate maintenance. Considerable study is required to devise efficient methods of testing which will accomplish uniform results and will not result in more train delays than will be obviated by not testing. A further problem is to organize a simple method of recording results of tests and inspections whereby a minimum of book work is required in the field and a minimum of compilations and filing are required in the office.