

EDITORIAL COMMENT

The Outlook for Signaling

PROGRESS in railway signaling is made a step at a time, and the magnitude of any one year's developments can be measured only when viewed from a distance. In the year that has just closed, the construction of new signaling facilities increased to totals greater than for any year since 1931. New lines signaled totaled more than 1,000 miles for the first time since 1931. Extensive replacement of semaphores with light signals aggregated more than 385 track miles. Car retarders were installed in two large yards, the first extensive construction of this character since 1931. Likewise, other types of signaling were installed in sizable quantities so that, viewed as a whole, 1937 was a comparatively active year.

It is true that many of these projects were planned and authorized during 1936 and the early months of 1937, when general business and railroad traffic were increasing, in contrast with conditions during the last six months of 1937, when traffic and earnings declined below those of the same period of the previous year. As a result of this more recent slump, several proposals for signaling improvements that were planned for 1938 are now being held in abeyance. However, the picture is not as dark as may seem at first glance, for, as we emerge from the extreme low levels of 1933, there are bound to be reactions from the gradual rise, to bring about readjustment in those factors which have gone forward too fast. The present recession may continue through the early months of 1938, but the indications are that the last six months of 1938 will be equal to or better than the similar period of 1937. When the Interstate Commerce Commission grants the railroads a substantial increase in rates, as is expected, earnings will be increased sufficiently to restore the credit of the railroads. Extensive railroad buying, especially in the signaling field, will then follow because these facilities, in the majority of instances, effect savings that pay their way.

Signaling will be favored in coming improvement programs for several reasons, principally because the installation of signaling will effect improvement in train schedules, with a minimum expenditure as compared with that required for additional tracks or new motive power. Viewed from another standpoint, the most urgent demand on the railroads today is to reduce the overall time of trains between termini, and the easiest and most efficient means to accomplish this result, in many instances, is to reduce unnecessary delays on the line and in yards. Signaling in one or more of its various forms offers a solution in most cases.

New signaling is not pulled out of a hat by a magician, and it may, therefore, be of interest to analyse the situation to determine where and why some of this prospective signaling is to be installed. In 1937, one road installed automatic block signaling on more than 200

miles of single-track line on which only 10 trains are scheduled daily, and this project was justified by the improvement in safety, the saving in train time, a better on-time performance and savings in operating expenses. A study of the railroad map of the United States, together with consideration of the traffic on various lines, shows that at least 5,000 miles of main lines should be equipped with signals within the next five years, and this can all be justified as readily as the project mentioned above. The greatest need, however, in so far as automatic signaling is concerned, is to rehabilitate extensive mileages of antiquated signals and control arrangements. The railroads made a good start in this direction in 1937, semaphores being replaced with light signals on about 385 track miles, the locations being respaced to meet the requirements of longer braking distances necessitated by higher train speeds.

In the field of interlocking, it might seem, at first consideration, that all of the track layouts to which interlocking is adapted have been so equipped. This is true, with a few possible exceptions, including some new terminals under construction. The construction in the interlocking field for the future, therefore, will consist, for the most part, in replacing obsolete equipment and in combining the control of two or more plants into one modern machine. The Pennsylvania recently combined four interlockings into one. In a C.T.C. installation made in 1936, the Delaware & Hudson included five plants in the control, and is now extending the installation to include two more interlocking layouts. At this rate the number of interlockings, as such, is going to decrease as the years go by, but, in the process, there will be a large amount of new construction for signal forces.

A question might arise as to where C.T.C. installations may be made in 1938, equal to the total for 1937. The necessity for meeting competition is the answer. When one road shortens its schedules and continues to make on-time arrivals and deliveries, it gets the business. The losing competitors soon see the light, and follow suit with the installation of the necessary signaling facilities. When passenger trains continue to run late, day after day, in seasons of heavy traffic, and damages have to be paid for failure to meet schedules on deliveries of fruit, manifest and stock shipments; C.T.C. affords an answer.

Therefore, although the picture of signaling construction for the coming year or two may seem dark at first glance; when it is analysed in the light of "reasons why," it appears to brighten perceptibly and reveal distinct outlines of considerable new automatic mileage, extensive C.T.C. projects, combinations of interlockings, several retarder installations, and some cab signaling thrown in for good measure. All or any of these improvements, however, do not come merely by wishing. As a general rule, operating officers are busy doing their best to keep trains moving by the use of the methods which they learned in past years of experience. Some one must advance the thought that new signaling facilities are

