

Editorial Comment

Special Controls for Crossing Protection

THE phenomenal increase in street and highway traffic during the last few years has brought about a demand not only for improved forms of protection at grade crossings with railroads, but also a need for special controls to minimize unnecessary delays to highway traffic when no train movement over a crossing is imminent.

A general practice, in accordance with A.A.R. Signal Section requisites, is to arrange automatic controls so that crossing protection is set in operation a minimum of 20 sec. prior to the arrival of a train at a crossing. As the length of these track circuit controls must be based on the speed of the fastest train operated over that section of track, the warning operation of the crossing protection may be considerably more than 20 sec. when a slower train is approaching.

This delay may not be objectionable at crossings out in open country where highway drivers can see a train approaching, and understand the necessity for waiting for it to pass. On the other hand, on heavily-traveled streets in towns and cities, an extra delay of a minute or more may cause vehicles to accumulate quickly, thus causing congestion and blocking of nearby cross streets. This congestion is a result of heavy street traffic—not railroad traffic. These special controls for these locations may be designed to accomplish one or more of several objectives: (1) To make the warning time of the crossing protection more nearly uniform for various speeds of trains that are to approach and pass the crossing without stopping; (2) To prevent operation of the protection when a local passenger train is to make a station stop in the approach section, and then to start the operation of the protection after the train leaves the sta-

tion and approaches the crossing; and (3) To cut out the protection of operation when a local freight train stops in an approach control section to make a switching move, with controls to get the protection in operation when the train again moves toward the crossing.

Special circuits to accomplish these objectives are explained in articles which have been published from time to time in these columns. Other circuits have been and are being devised by the railroads to solve special problems encountered at various locations. Thus circuits can be designed to control crossing protection as desired. A further conclusion is that, since the need for such special controls has been brought about by the increase in street traffic—not railroad traffic—the local governments should be willing to pay the added costs of installation and maintenance of these controls.

Improved Printing Telegraph

NUMEROUS railroads, which have extensive systems of printing telegraph facilities, are making studies to expedite this messages service and reduce operating costs. As applying to a centrally located general telegraph office, there seems to be an open question whether to receive incoming messages on tape and then use the tape to retransmit to all offices addressed, or to install a switchboard to connect through, so that messages can be sent directly to all offices of destination.

An advantage of the switchboard practice is the saving in time which would be required under the tape practice to retransmit from the tape to the final offices addressed. For example, a train consist or wheel report of a train enroute to a terminal area may be addressed to two or three yards, the car service department and the traffic department. All these offices, under the switchboard practice, can receive the message simultaneously as a result of the initial transmission from the office of origin. A disadvantage, of course, is that if the line from the general office to one of the yard offices is busy, the general office must make a tape, and retransmit to that office later. However, the objective of direct through transmission to the remaining offices is accomplished.

In addition to minimizing the delay in overall transmission of messages, several railroads contend that the switchboard makes a saving in the number of employees required at a general telegraph office in an area. On the other hand, local circumstances and other conditions may require the use of the tapes rather than switchboard connections through a general office. At any event, thorough investigation of both practices seems to be under way at this time on several roads which are planning improvements and expansion of their printing telegraph systems, and results of these investigation should be of great value.

