

Report of A. R. E. A. on Crossing Signals

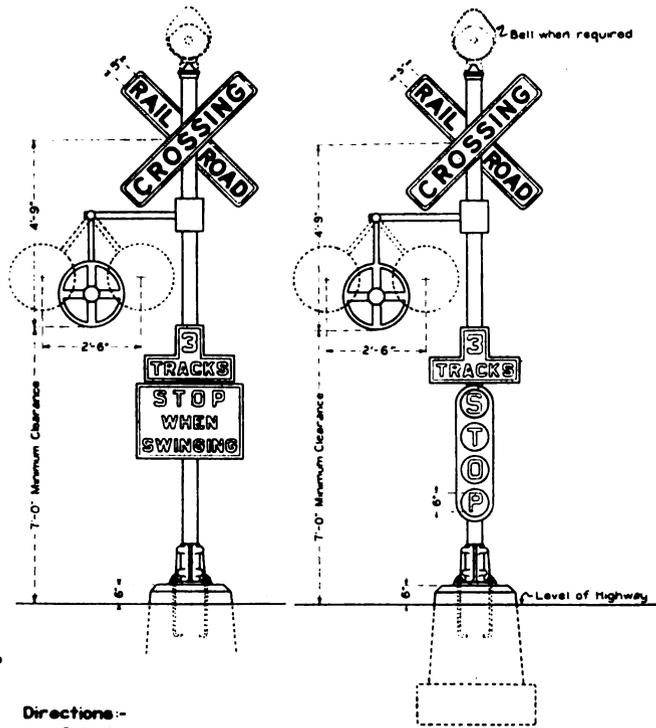
Design for Stop signs presented in detail and approved - Next action depends on Signal Section

THE report of the Committee on Grade Crossings, as presented at the annual convention of the American Railway Engineering Association in Chicago on March 10, contained several features of importance to the signal field. This report was approved by the A.R.E.A. which is in effect the Engineering Construction and Maintenance Section of the American Railway Association. Pre-

highway and railway traffic over highway grade crossings (Appendix D); (5) Methods for developing and evaluating the relative benefits to the public and railways from grade crossing protection and elimination (Appendix E); (6) Provision which should be included in uniform statutes governing highway grade crossing protection and elimination (Appendix F); (7) Specifications for location, height and illumination of signs protecting grade crossings (Appendix G); and (8) Classification and forms for recording and reporting highway grade crossing accidents (Appendix H).

The A. R. A. Joint Committee on Grade Crossing Protection, on which the Construction and Maintenance Section is represented by five members of Committee IX, took action on May 14, 1930, recommending the continued use of the present standard automatic flashing light and wigwag crossing signals, with the following changes and additions:

Lights on every signal shall shine in both directions along the highway. Circuits shall be arranged so that the crossing



- Directions:-**
1. Signal light shall shine in both directions along the highway
 2. Reflector sign shall display the words "STOP WHEN SWINGING" in white letters with white reflector lenses on black background toward highway traffic approaching the near side of the crossing
 3. Details not shown shall conform to A.R.A. Signal Section recommended practice
 4. Cross-buck shall be painted white with black letters on both sides
 5. Except as otherwise specified, mast and signal shall be painted with white or aluminum paint

- Directions:-**
1. Signal light shall shine in both directions along the highway
 2. Illuminated sign shall display the word "STOP" in red letters toward highway traffic approaching the near side of the crossing only while wigwag is swinging
 3. Details not shown shall conform to A.R.A. Signal Section recommended practice
 4. Cross-buck shall be painted white with black letters on both sides
 5. Except as otherwise specified, mast and signal shall be painted with white or aluminum paint

Fig. 3

Fig. 4

Wigwag signals for location at side of highway

sumably the Signal Section is the next body to take action on the matter; therefore, in order to give the subject matter wide consideration in advance of the Signal Section convention in May, the major portion of the report, together with several of the drawings, is reproduced herewith.

A. R. E. A. Report

The committee reported on the following subjects: (1) Revision of Manual (Appendix A); (2) Comparative merits of various types of grade crossing protection (Appendix B); (3) Economic aspects of grade crossing protection in lieu of grade separation (Appendix C); (4) Methods and forms for classifying highway crossings of railways and forms for recording and reporting

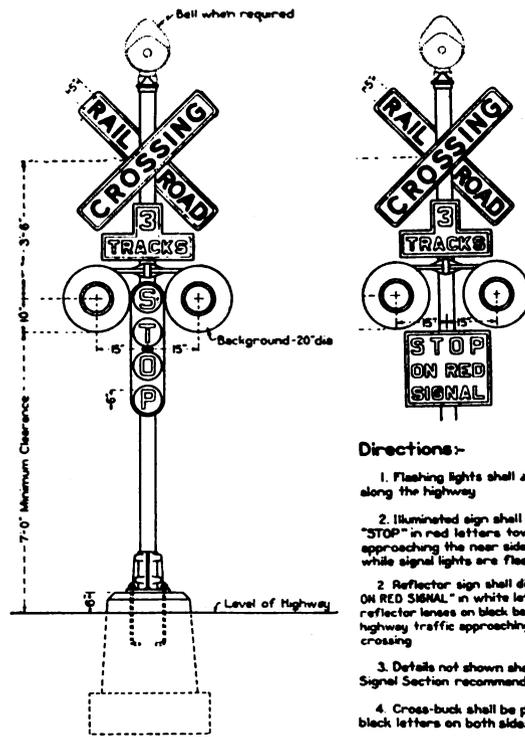


Fig. 8

Fig. 7

Flashing light signals for location at side of highway

signals will operate until rear end of train reaches crossing, and then cease.

Reflector-Type Stop Sign—Each crossing signal shall be equipped with a square sign with black background and white reflecting buttons, displaying the words "Stop on Red Signal" toward highway traffic approaching the near side of the crossing.

Or, when conditions warrant—

Light-Type Stop Sign—Each crossing signal shall be equipped with an illuminated sign displaying the word "Stop"

in red letters toward highway traffic approaching the near side of the crossing, only while the signal lights are flashing or the wigwag is swinging.

Bell should be used on crossing signals only when required by public authority or local conditions. Bell should be arranged so as to ring while signal lights are flashing or wigwag is swinging.

The American Railway Association at a special session held at Chicago on May 15, 1930, adopted a resolution as follows: "Resolved that the recommendations relating to signs and signal devices be recommended as standard practice."

It was understood by the Joint Committee that the representatives of the A. R. E. A. and the Signal Section would co-operate in preparing revised plans incorporating these recommendations and would submit them for the approval of the A. R. E. A. and Signal Section with a view to their adoption by the A. R. A. as standard practice.

The Committee and representatives of A. R. E. A. Committee X and of Committee XII of the Signal Section have prepared revised plans as shown in Fig. 1 to 13, inclusive, with accompanying directions.

Figure 1, Advance Warning Signs, is identical with Fig. 6, page 664, 1929 Manual, with addition of directions. Fig. 2, Cross-buck Sign, is identical with Fig. 3, page 661, 1929 Manual. No change in this plan is recommended. Fig. 3 shows the wigwag signal for location at the side of the highway, the new "Stop When Swinging" sign being shown on the mast. Fig. 4 shows the same type of wigwag signal equipped with the illuminated STOP sign. Fig. 5 shows the wigwag-type signal for location in the center of highway, and equipped with the "Stop When Swinging" sign, while Fig. 6 is the same type of signal equipped with the STOP sign.

Crossing" crossbuck sign and also the standard sign designating the number of tracks.

The sign showing the number of tracks has been added, as has the provision for the use of a bell when required. The alternate reflector and light type Stop signs are shown for each location. In addition to the recommendations quoted above, the Joint Committee, at a meeting May 14, 1930, recommended that each flashing light unit be equipped with a background, and that the minimum vertical clearance of the flashing light units or wigwag disk be seven feet above the surface of the roadway, which fea-

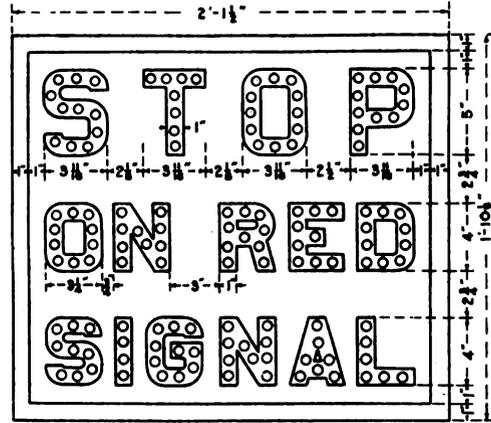


Fig. 12—Reflector lens sign for flashing light signal

tures are incorporated in the plans. Otherwise the signals are similar to present standards.

The plan for center-of-road installations, Fig. 13, is a revision of Fig. 8, page 666, 1929 Manual, to show provision for widening paving as recommended by the National Safety Conference.

Enough of the drawings are reproduced herewith to give the reader information as to the new standards.—Editor.

HIGHWAY CROSSING SIGNS AND SIGNALS

- (1) Advance warning sign, Fig. 1, to be placed as required by local conditions, not less than 200 ft. (in cities not less than 100 ft.), nor more than 450 ft. from a crossing.
- (2) Highway crossing sign, Fig. 2, to be used as required where manual or automatic protection is not provided.
- (3) At crossings on heavily traveled highways where conditions justify, either of the following standard visible warning signals should be installed:
 - (a) Wigwag type—Fig. 3, 4, 5, 6.
 - (b) Flashing light type—Fig. 7, 8, 9, 10.
- (4) At crossings where wigwag or flashing light signals are used, one may be placed on each side of the track. In cities and towns where the street is of sufficient width, signals may be located in the center of the street—Fig. 5, 6, 9, 10, 13.
- (5) Circuits for automatic operation of wigwag or flashing light signals shall be arranged so that the crossing signals will operate until the rear of a train reaches or clears the crossing.
- (6) Bell should only be used on crossing signals when required by local conditions.

Recommendation

The Committee recommended that the plans for highway crossing signs and signals, Fig. 1 to 13, inclusive, with accompanying directions, be adopted by the Association as recommended practice, to be substituted for directions, and Fig. 3 to 8, inclusive, appearing on pages 660 to 666, inclusive, in the 1929 Manual.

[A motion to this effect was carried.]

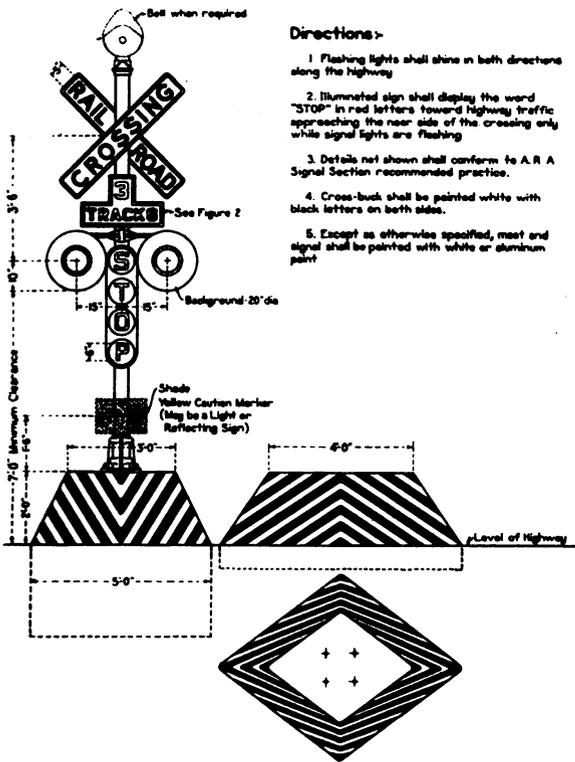


Fig. 10—Flashing light signal for location in center of highway

Figure 7 shows the flashing-light signal for location at the side of a highway and is equipped with the "Stop on Red Signal" sign, while Fig. 8 is the same type of signal equipped with the illuminated STOP sign. Fig. 9 shows the flashing-light type of signal for location in the center of a highway and is equipped with the "Stop on Red Signal" sign, while Fig. 10 is the same type of signal equipped with the illuminated STOP sign. In all these figures the signal is equipped with the standard "Railroad