

Decision No. 35400.

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA.

In the Matter of the Investigation
on the Commission's own motion,
dealing with regulation governing
the protection of crossings at
grade of roads, highways and streets
with railroads or street railroads
in the State of California.

ORIGINAL

Case No. 3374.

Frank B. Durkee, For State Department of Public Works.
J. Ogden Marsh, For Board of Public Utilities and Transportation
of the City of Los Angeles.
Robert Brennan, M. W. Reed, For The Atchison, Topeka and Santa
Fe Railway Company.
Malcolm Davis, For Los Angeles & Salt Lake Railroad Company.
L. W. Bradshaw, For The Western Pacific Railroad Company,
Sacramento Northern Railway,
Tidewater Southern Railway Company.
H. W. Hobbs, For Southern Pacific Company, Northwestern Pacific
Railroad Company, Visalia Electric Railroad
Company, Fresno Traction Company, Stockton
Electric Railroad Company, Central California
Traction Company, Peninsular Railway Company,
San Jose Railroads.
Richard E. Wedekind, For Pacific Electric Railway Company.
Earl & Hall, By William M. Oliver, For Great Northern Railway.
E. P. Bell, For Key System, Ltd., Key Terminal Railway Ltd.,
East Bay Street Railways, Ltd.
S. L. Foster, Chas. Wagner, Henry Plattner, For Market Street
Railway Company.

STEVENOT, COMMISSIONER:

O P I N I O N

This is an investigation on the Commission's own motion,
to consider a revision of its General Order prescribing regulations
governing the protection of crossings at grade of roads, highways
and streets with railroads and street railroads in the State of
California.

A public hearing was conducted in this proceeding at San Francisco, November 10, 1932, at which time the matter was taken under submission and is now ready for decision.

On January 12, 1927, the Commission issued its first General Order dealing with the matter of grade crossing protection which was designated as General Order No. 75 and became effective February 1, 1927. Two supplemental orders have been issued to this General Order, the first, Supplement No. 1, effective December 23, 1927, and Supplement No. 2, effective February 17, 1928.

It appeared to the Commission that it would be desirable to review the grade crossing protection matter with the thought of making such changes in its heretofore prescribed regulations as was necessary in the light of past experience and present-day means of regulating traffic. Commission's Exhibit No. 1 outlines certain modifications of General Order No. 75. This suggested new form of General Order, a copy of which was furnished all interested parties previous to the hearing, embodies a consolidation of the original General Order No. 75 and the two supplements referred to above. It also carries a number of changes from the General Order now in effect. Perhaps the most important change suggested is the addition of a second type of automatic signal. The present order prescribes only the so-called wigwag as a standard, whereas in Exhibit No. 1 there is proposed an alternative automatic signal, known as the Flashing Light Rotating Stop Banner Signal. This type of flashlight signal has been under observation by the Commission in California for the past three years and its performance is dependable and effective. The record in this case shows that although this class of signal has been in use for only a comparatively few years, there is a considerable number installed in the east. The State of Minnesota

has adopted this type of automatic signal as its only standard, also it is generally used by a number of railroads. With this signal a warning aspect is displayed when a train is approaching or occupying the crossing, by means of flashing red lights and a rotating stop banner. The lights, which are constructed about five feet above the roadway, are situated about 26 inches apart and flash alternately. The rotating stop banner, constructed immediately above the flashing lights, consists of an ordinary boulevard stop banner which assumes a "STOP" position by gravity and when the crossing is open for vehicular traffic is propelled by a small motor to a "CLEAR" position. The flashlight signal and banner operate separately, thereby affording a dual duty in displaying a warning aspect. Immediately above the rotating stop banner there is located a railroad crossing sign. The entire sign is illuminated at night by means of a flood light.

The record shows that there were a few suggestions and objections presented by the various interested parties. The primary objection was directed to the addition of the automatic flashing light rotating stop banner signal as a standard. These objections were centered largely upon the fact that this class of signal is more expensive to install than the wigwag signal. Estimates varied in amounts ranging from a difference of \$250 to \$900. The difference in the estimated cost of maintenance was small. The estimates showing the least difference in the cost of the two types of signals were furnished by the Great Northern Railway, where this type of flashlight signal is a standard, and by Southern Pacific Company, which now maintains all the flashing light rotating stop banner crossing signals in California with the exception of two crossings on the lines of other carriers. Pacific Electric Railway Company urged that an additional type of automatic crossing signal be added as a standard in

the form of two flashing lights mounted on a support which could be installed at a materially lower cost than either the wigwag or the flashing light rotating stop banner signal. To this suggestion it would appear that if the multiplicity of crossings on this carrier's electric line deserve the approval of some inexpensive type of signal, the matter should be considered as a special case to be handled on its merits rather than by general order.

Some of the carriers objected to the adoption of the flashing light rotating stop banner signal on the ground that it was manufactured by a single company and that its use was still in the experimental stage. The record shows that the signals of this class which have been installed in California were manufactured by two different companies. Referring to the question of experimental stage, the fact that this type of signal has been in use in California for the past three years with satisfactory results, together with the fact that it has attained a position among other modern types in other states over a longer period of time, would seem to furnish sufficient background to justify the conclusion that this signal has passed the experimental stage.

The record shows that both the National Conference on Street and Highway Safety, at its meeting in Washington, D.C., May, 1930, and the Joint Committee on Grade Crossing Protection of the American Railway Association, as evidenced by its Bulletin No. 1, recommended two types of grade crossing protective devices, viz., the wigwag and the flashing light.

The question of providing dependable and arrestive signals at grade crossings is an important one. Obviously it would not be reasonable to attempt to make radical changes in grade crossing protection that would result in destroying present investment in such

equipment. On the other hand, it is important that we keep pace with developments in the art of governing vehicular traffic and doubtless there are many locations where the proposed flashing light rotating stop banner would better serve the public than the wigwag and thereby justify a slightly greater investment. With these two types as standards, the majority of cases can be handled, especially on steam railroads. However, the Commission proposes to continue to encourage still further development in the art of grade crossing protection.

After carefully considering the record in this proceeding, it is concluded that the proposed General Order with the changes suggested for the purpose of clarifying the meaning should be adopted and it is so recommended.

O R D E R

An investigation having been instituted on the Commission's own motion in the above entitled proceeding, a public hearing having been held and the matter now being under submission and ready for decision,

The Railroad Commission of the State of California Hereby Finds as a Fact that public convenience and necessity will be served

through the issuance of a General Order prescribing certain modifications to the orders heretofore issued on the subject matter of grade crossing protection (General Order No. 75 and Supplements Nos. 1 and 2).

IT IS HEREBY ORDERED that the attached General Order, designated as General Order No. 75-A, will become effective on the first day of January, 1933

The foregoing Opinion and Order are hereby approved and ordered filed as the Opinion and Order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 5th day of December, 1932.

C. Leary
Leon Whiteley
W. A. Carr
M. B. Lewis
Fred G. Stevenson
Commissioners.

Recs

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days following the close of the month in which the change is effective.

ARTICLE IV. PROVISIONS OF CREDITING PROVISIONS FOLLOWING ACCOUNTS.

Whereas it is desired to provide for automatic crediting of accounts which may be required by a withdrawal of such order shall effect a withdrawal from the account which has deposited

ARTICLE V. PROVISIONS OF CREDITING PROVISIONS OF SPECIAL PROVISIONS.

It is hereby provided that all banknotes and so forth payable at sight shall be subject to automatic withdrawal, including interest, in the event of a withdrawal of such order shall be deemed to be a withdrawal of such order of withdrawal.

ARTICLE VI. PROVISIONS.

It is hereby provided that the Commission shall have the right to suspend or to suspend the application of the provisions of this act in any case in which it shall be deemed to be in the public interest to do so. Such suspension shall be limited to the provisions as provided by the application.

Nothing herein shall be construed as limiting the total amount of any deposit or any other proceeds or services provided herein. But the Commission shall be provided as such plan in order of the Commission in such cases as it shall see fit.

The Commission shall have the right to modify any of the provisions of this act in any case when, in the Commission's opinion, public interest would be served by so doing.

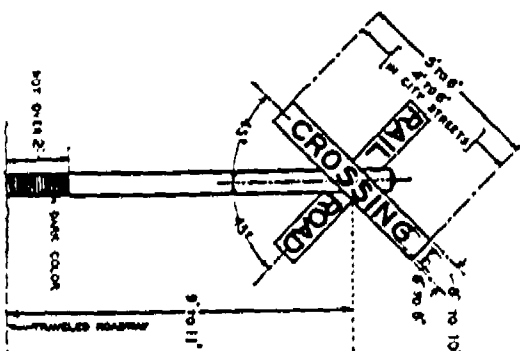
Nothing herein shall be construed as limiting the Commission's power to suspend or to suspend the application of this act in any case.

This act shall take effect on and after the first day of January, 1933
Approved and signed by the Governor, this fourth day of December, 1932

WILLIAM J. WOODS, GOVERNOR OF THE STATE OF CALIFORNIA,
W. J. WOODS, Secretary

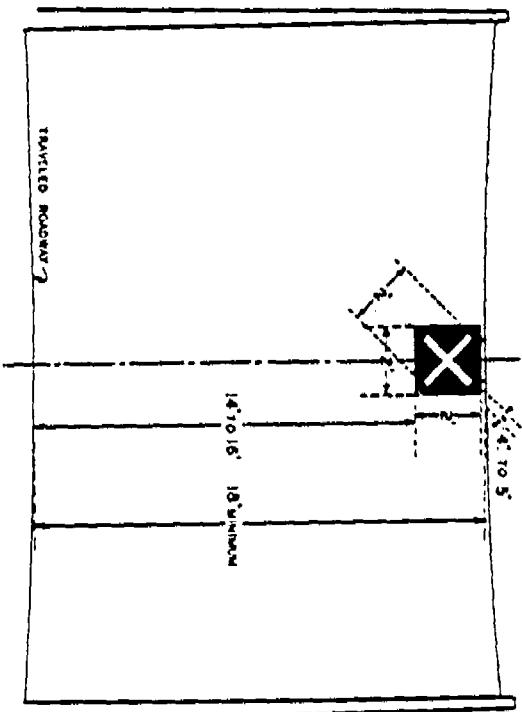
Painting:
Post and Arms: White or Aluminum, except that post may be of a dark color for not over two (2) feet above ground line.
Lettering: Black - width of stroke 1/8" to 1-3/8".

STANDARD NO. 1



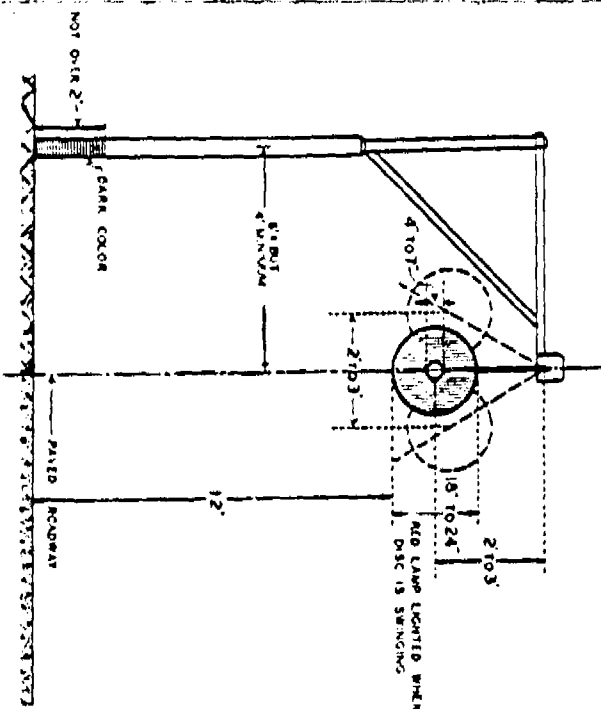
Painting:
Post: Black.
Letter: White

STANDARD NO. 2



Painting:
Post: White or Aluminum, except that not over 2' above ground line may be of a dark color.
Banner: Vermillion.
Grotto: Wts. 50, Max. 45 per minute.
The movement from one extreme to the other and back constitutes a cycle.
Signal: Warning aspect shall consist of a revolving banner by day in combination with a revolving red light at night. Unless omitted by permission of the Commission, the warning aspect shall be accompanied by the sounding of a bell. Both banner and light shall be so constructed as to display a danger signal in both directions along the highway.
Notes: In a curved street, the supporting post shall be placed near curb line.
The distance from the surface of the paved roadway to the lower edge of the banner shall be 12', except that this distance may, where justified by special conditions, be from 11' to 14'.

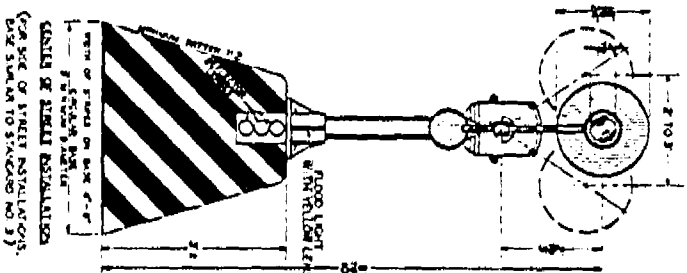
STANDARD NO. 3



SIDE OF STREET INSTALLATION

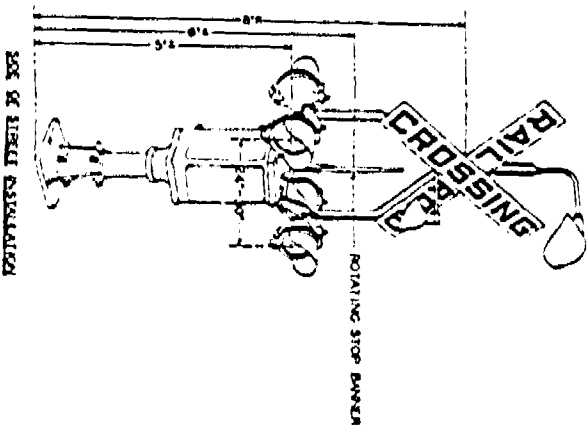
STANDARD NO. 4
Figure - Center or side of street installation.

Painting:
Banner: Vermillion.
Post: (Side of street installation), White or Aluminum, except that not over 2' above ground line may be of a dark color.
Banner: (Center of street installation), diagonal black and white stripes, angle 45 degrees to vertical.
Warning Aspect:
Grotto: Wts. 50, Max. 45 per minute.
The movement from one extreme to the other and back constitutes a cycle.
Signal: Warning aspect shall consist of a revolving red light at night. Unless omitted by permission of the Commission, the warning aspect shall be accompanied by the sounding of a bell. Both banner and light shall be so constructed as to display a danger signal in both directions along the highway.
Notes: (Center of street installation), Post shall be illuminated by floodlights during night hours.



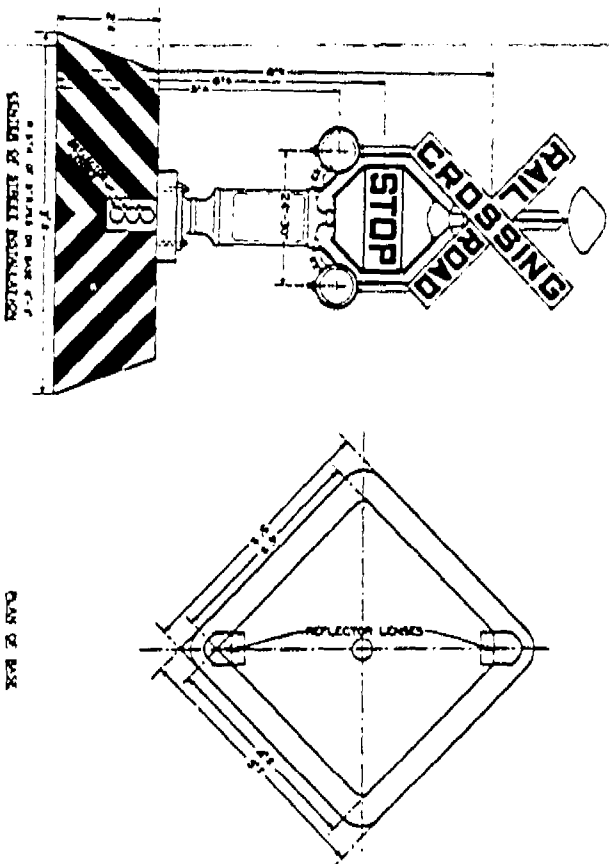
STANDARD NO. 5
Flashing light-posting stop banner - Side of street installation.

Painting:
Banner: Field Vermillion; Letters: White.
Crossing Sign: Field White; Letters: Black.
Warning Aspect:
Flashers: Red lights shall flash alternately. The number of flashes of each light per minute shall be 50 minimum, 45 maximum.
Grotto: Lamp shall be properly hooded.
Banner: When lamps are operated at normal voltage, the banner, on tangent, shall be at least 500 feet on a clear day, with a bright sun at or near the zenith.
Spread: The beam spread shall be not less than 10 degrees each side of the axial beam under normal conditions. This beam spread is interpreted to refer to the point at the angle mentioned where the intensity of the beam is 50 per cent of the axial beam under normal conditions.
Lenses and Roundels: Lenses and roundels shall be 6 inches diameter, 9 inches maximum.
Post Holes: Post holes may be used.
Display: Signal shall be so constructed as to display a danger warning in both directions along the highway. Unless omitted by permission of the Commission, the warning aspect shall be accompanied by the sounding of a bell.
Notes: In a curved street, the supporting post shall be placed near curb line, and it as located street, the supporting post shall be placed 4' from the edge of the pavement where there are no shoulders. Where shoulders are constructed, the post shall be located not less than 5' from the edge of the pavement.



STANDARD NO. 6
Flashing light-posting stop banner - Center of street installation.

Painting:
Banner: Field Vermillion; Letters: White.
Crossing Sign: Field White; Letters: Black.
Banner: Diagonal black and white stripes, angle 45 degrees to vertical.
Warning Aspect:
Flashers: Red lights shall flash alternately. The number of flashes of each light per minute shall be 50 minimum, 45 maximum.
Grotto: Lamp shall be properly hooded.
Banner: When lamps are operated at normal voltage, the banner, on tangent, shall be at least 500 feet on a clear day, with a bright sun at or near the zenith.
Spread: The beam spread shall be not less than 10 degrees each side of the axial beam under normal conditions. This beam spread is interpreted to refer to the point at the angle mentioned where the intensity of the beam is 50 per cent of the axial beam under normal conditions.
Lenses and Roundels: Lenses and roundels shall be 6 inches diameter, 9 inches maximum.
Post Holes: Post holes may be used.
Display: Signal shall be so constructed as to display a danger warning in both directions along the highway. Unless omitted by permission of the Commission, the warning aspect shall be accompanied by the sounding of a bell.
Notes: Banner shall be illuminated by flood lights during night hours.



CENTER OF STREET