

CHAPTER 14: RAILWAY CROSSING SIGNALS

14.1 INTRODUCTION

- 1 The National Road Traffic Act permits the railway operator (Transnet Limited) to erect road traffic signs at railway crossings as they may deem expedient. However, provision is also made in the act that such operator can be directed to display or remove signs as may be required.
- 2 According to the National Road Traffic Regulations, no person shall stop a vehicle on the roadway of a public road within the railway reserve at a level crossing, except in order to avoid an accident, or in compliance with a road traffic sign or with a direction given by a traffic officer.
- 3 Due to extremely high risk of fatal and serious injury resulting from accidents at level railway crossings, it is important that the highest standard of traffic control should be provided at such crossings. This includes making drivers aware of the fact that they are approaching a level railway crossing.
- 4 Railway crossings should be marked with the rail crossing warning signs W403 or W404. Sign W403 is displayed on approaches to single railway level crossings, while sign W404 is displayed on approaches to level crossings with more than one railway line. In addition to these signs, the advance warning sign W318 can be applied with good effect, particularly under circumstances where visibility is obscured. These signs and their applications are described in Volume 1 of the Road Traffic Signs Manual.
- 5 A number of road signs may be used for the control of traffic at level railway crossings. These include the use of FLAG SIGNALS SS2 as well as STOP SIGNS R1 and YIELD SIGNS R2 singly or in combination with the W403 or W404 warning signs. The use of these road signs is described in Chapter 7 of Volume 2 of the Road Traffic Signs Manual.

- 6 FLASHING RED DISC LIGHT SIGNALS (FRD) may also be used to warn drivers that a train is approaching a level crossing. Two such signals shall be used in conjunction with a STOP SIGN R1 and a warning sign W403 or W404. The signals shall be mounted below the stop sign R1 and above the warning signs W403 or W405 as shown in Figure 14.1.
- 7 According to the National Road Traffic Regulations, the flashing red disc signal ***“indicates to the driver of a vehicle that he or she shall stop his or her vehicle and shall not proceed until it is safe to do so, and such signal shall have the same significance as stop sign R1”***.

14.2 INSTALLATION

- 1 The flashing red light signals at railway crossings SHALL be situated on the near side of the railway crossing, on the left side of each approach roadway.
- 2 The flashing red light signals shall conform in all respects to the requirements laid down for vehicular traffic signals at road junctions and pedestrian crossings, except that:
 - (a) The signal face shall comprise a single red disc aspect and shall be mounted on the same post as the stop signs R1 and the warning signs W403 or W404.
 - (b) The red disc aspect shall be displayed only in flashing mode, as and when required to warn of the approach or presence of a train, and shall not display a steady red light signal at any time.
 - (c) Two flashing red disc signal aspects shall be provided on the same post.
 - (d) The flashing red disc signal may be accompanied by an audible signal.
 - (e) The signal posts shall be as for road signs.

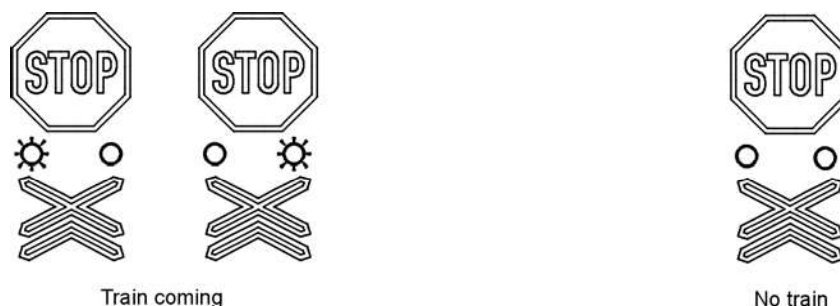


Figure 14.1: Flashing red disc light signals at railway crossings

- 3 In South Africa, the signals shall comply with standard specification SANS 1459: *Traffic lights*.
- 4 The use of flashing red disc light signals will be warranted by one or more of the following conditions:
 - (a) when a crossing has a high accident history;
 - (b) sight distance requirements are not met (these requirements are given in Chapter 2 of Volume 2 of the Road Traffic Signs Manual);
 - (c) train operations involve reversals of movement across the crossing; or
 - (d) train operations occur during the hours of darkness.

14.3 OPERATION

- 1 The two flashing red light signals are used to indicate to a driver that he or she shall stop his or her vehicle. The preferred mode of operation is that a flashing red disc light signal is displayed at least 30 seconds before the arrival of a train. If gates or barriers protect the crossing, the flashing red light signal should start 20 seconds before the gate or barrier closes.
- 2 The two flashing red disc light signals shall be arranged to flash alternately in such a way that the alternating flashes remain constantly out of phase i.e. when one disc is fully illuminated the other disc has zero luminous intensity and vice versa.