

Approach Length for GCP 4000 and Later in Poor Shunt Environment

2nd June 2020

TTTBLXP033

Issue 3.0

This bulletin has been re-issued to include models later than GCP 4000.

1 Applicability

Model 4000 and later Grade Crossing Predictors used in a possible poor shunting environment (eg infrequent light train movements).

This information is only applicable where Enhanced Detection is turned on (although we recommend that it be normally used).

2 Information

The approach length for the model 4000 and later Grade Crossing Predictors should be calculated based on:

- the warning time required for the maximum train speed (usually in excess of the line speed limit)
- 5 s GCP computation time
- 5 s (additional) to allow for the GCP to identify poor shunting and invoke Enhanced Detection Mode where it is present

It is usually better to go a little longer on the approach length rather than using exactly the length calculated to allow for any site or operational variations.

The required approach length in metres would then be at least:

$$\frac{(\text{maximum line speed in km/h}) * (\text{warning time in s} + 10)}{(3.6)}$$

We suggest you use a maximum speed of 10% above line speed if you don't have any other railway specific requirements.

We have previously advised some clients that the additional time for detection of poor shunting is not required. This is incorrect and an additional 5 s is required. We recommend that you review any designs based on that prior information as it could result in marginally shortened warning times under poor shunting conditions. Warning times with adequate shunt are not affected.