

THE PREDICTION OF CONFLICTS BETWEEN TRAINS, FOR USE IN TRAIN CONTROL SYSTEMS

A conflict exists between two trains if both require the use of a particular resource (e.g. section of track) simultaneously, when one train can only use that resource at a time. Conflicts can be resolved in two ways; either a train can be delayed or re-routed. Conflict prediction is the process of identifying conflicts that will occur at some future time. This prediction is necessary to initiate corrective action for resolving the conflict, in accordance with any train regulation strategy in use.

This report summarises theoretical and practical work on the prediction of conflicts, in the context of the GATTS simulator. It concludes that linear interpolation of times from the Working Timetable produces acceptable predictions for GATTS. However, a study of the variability in driver behaviour is considered necessary if such predictions are to be made in a real railway situation.