Railways are the convenient, reasonable and popular mode of transport in almost all major cities all over the World. Nowadays most train accidents are occurring due to human errors or technical errors which were due to less maintenance. It is very difficult to avoid such train accidents because the speed of the train is very high and it requires some time to control it. Therefore, it has been a clear interest in train collision avoidance systems according to many research papers and journals.

A lot of projects have been conducted in order to identify and reduce train collisions. Some of them are based on RFID to eliminate train accidents by exploiting automated surveillance system using ARM Controller and GSM. In this system each train track is identified by track id, every train reads and sends its track id to nearby trains. If two trains are on same track id, then alert is send to main control room or to the train drivers. The train tracks are divided into segments with individual track segment number. Whenever a train enters a segment of the track, the track number of that segment of track is read from the Radio Frequency Identification (RFID) tags present at the beginning of each segment of track.

Some researchers are implemented a low-cost transportation management system using GPS and GSM data. GPS is used to collect train data and indicate location. GSM location notifications improve service. The system has three wirelessly linked GSM modules: Vehicle Module, BASE Station Module, and User Mobile Module. Every station's GPS Module receives train location information from the BASE Station module. Moreover, researchers presented a train crash pre-warning system using RFID and FLIR cameras. Camera and RFID power supply limit proposed system.

According to the above mentioned examples, it is clear that many researchers and projects are conducted to implement designs to eliminate train accidents by exploiting surveillance.