

## **ABSTRACT**

*The railroad industry plays an important role in many countries. All railway companies strive to achieve more organized and reliable train services to satisfy their customers. One way to optimize these services is in the process of controlling the train itself. Therefore, the train must plan a detailed schedule to determine the order and timing of trains at each intersection and station. PT. Kereta Api (KAI) is a company that is one of the Indonesian State-Owned Enterprises (BUMN) engaged in transportation services. The Bandung - Yogyakarta railway line still has a partial double track. A partial double track is a track that has a portion of a single track and a double track. There are 42% single lanes and 58% double lanes. The partial double track must have the optimal intersection, because if it does not, it will result in waiting time on each train that passes through that line. In this study, scheduling trains uses the mixed integer programming method. With the job shop scheduling approach, the train will become a job and the track will be considered as a machine. After the proposed scheduling, all jobs have on time tardiness status.*

*Keywords: Train Scheduling, Partial Double Track, Blocking Constraint, Job Shop Scheduling, Mixed Integer Programming, Minimized Tardiness*