

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**MIXED INTEGER PROGRAMMING APPROACH FOR
MINIMIZING TRAIN DELAY**

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ABSTRACT

The KTM train is more popular than other modes of transportation because train terminals are accessible to the general people throughout Malaysia. Similar to other public transportation systems, KTM trains has experienced a number of difficulties, including delays, changes to ticketing procedures, punctuality arrival times, and delay time. This study focused on modelling the train scheduling problem as a mixed integer programming. Hence, by using the model, the total delay for seven trains are estimated. There are nine stations starting from Padang Besar to Sungai Petani are involved in this study. The findings revealed a significant time difference between the current train schedule and anticipated journey times on all trains. Based on the estimated total delay, a new train schedule will be proposed at the end of the study. Therefore, this study can assist KTM to amend their schedule. As a result, the passengers will be more satisfied when using KTM trains as their primary daily ride to get to work, a festival, or a visit.