

**Timetable Rescheduling Formulation and Algorithm Minimizing
The Total Increase of Inconvenience to Passengers**

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This paper presents a timetable rescheduling formulation and an algorithm to minimize the total increase of inconvenience to passengers. When railway operations are disrupted to a certain extent, rail transport management staff members called dispatchers inevitably reschedule the timetable to manage the situation. Rail transport rescheduling is a real-time process and the scale and complexity derived from the scheduling phase make the task more strenuous. Our approach is significant for the passenger-oriented rescheduling since the order of trains affects passenger's behaviour. Rescheduling measures such as reordering of trains are incorporated into one mixed integer programming problem. We have obtained a better solution in terms of the inconvenience at the expense of a minimum delay timetable by introducing flexibility in the delay-minimized timetable.