

## **A Train Rescheduling Algorithm Using Estimated Passenger Demand**

Taketoshi KUNIMATSU      Chikara HIRAI

When an accident occurs on a railway line, it is necessary to modify the train schedule to restore the train traffic disruption and to maintain the quality of the transportation service. A sequence of such modifications is called as a train rescheduling. In this paper, we propose a train-rescheduling algorithm using estimated passenger demand. The main flow of the algorithm is based on an existing algorithm with a passenger dissatisfaction index. We have modified the existing algorithm to utilize explicit passenger numbers. In order to estimate those numbers, we employ a simulation technique for train traffic and passenger flow. Applying the algorithm to an actual line, we can confirm that our algorithm can prepare a train-rescheduling plan that reduces passengers' disutility.