

**Passenger Behavior Simulation Inside Train Car  
for Estimation of Train Delay Caused by Congestion**

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Train delay caused by congestion is a serious problem. Train operation companies try to decrease dwell time at stations, by installing wide train doors, or devising a way how passengers should be in an efficient alignment at platforms. However, there is no way to quantitatively estimate their effects in advance. In this research, we first devise the simulation method of passengers' behavior when boarding and alighting, reflecting passengers' preference of standing position in train car. Secondly, we combine the developed function with train operation and passenger flow simulator and realize to estimate the extent of reduction of train delay by taking counter-measures.