

Proposal of Evaluation System for Evacuation Safety in Case of Station Fire

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It is necessary to ensure high evacuation safety at stations used by an unspecified number of people. However, station concourse section is not subject to the Building Standard Act of Japan, and therefore the evacuation safety may not be perfect. In order to solve this problem, we developed a system that can evaluate the evacuation safety of a station by comparing the evacuation time and the smoke filling time for fire scenario which may occur in the station yard. In the system, the evacuation time is calculated using the equation for estimating the number of evacuees at station concourse based on the examination in the station. With regard to evacuation guidance by voice broadcasting using a large number of broadcasting facilities already installed at the station, the evacuation induction success rate by subject experiment can be introduced to the proposed system as the evacuation guidance effect. Therefore, the proposed system has made it possible to support evacuation planning such as shortening evacuation time.