ABSTRACT

The primary goal of crowd evacuation in urban underground passages or subways is to evacuate as many evacuees as possible to safe areas in the shortest time when emergency events occur. This paper chooses the underground passages of one metro in Istanbul, Turkey as research object, and uses a study method which combines by sites investigation, field test and computer simulation of the creating new software. It is called Building Evacuate Module software. We present a depth analysis of the related factors which include the number and width of passage, channelization setting and the number of pedestrians with the evacuation time. And the influential effect of public opinion is explained by using big data technology. In addition, pedestrians evacuation condition are recorded in three evacuation period, the morning peak, common and evening peak by the observation and statistic obtained with video, and build the model to simulate the change of evacuation time with pedestrians. So it reveals when the number of pedestrians reaches to more than 200, evacuation time increases significantly and the field experiment and simulation condition are consistent basically.

KEYWORDS

Transport Planning, Building Evacuate Module, Crowd Evacuation, Metro Station