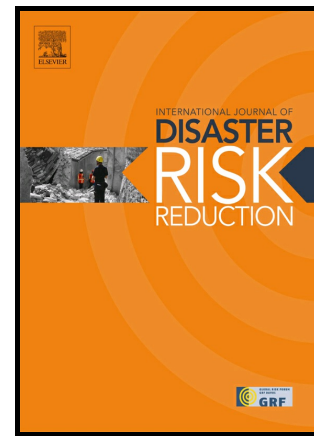


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**Evacuation Method Evaluation in Underground Metro Station**

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**Abstract**

The evacuation process is a key part of the emergency response strategy to manage and control a variety of emergency situations or disasters. Many regulations and standards have been put into effect in order to ensure both the proper workplace design and the efficient evacuation procedure. This is something that is passing on to the underground space design, a critical urban infrastructure with special needs and requirements. The paper analyses the evacuation process and its performance in an underground metro station that is under development in Greece, as part of the Thessaloniki metro project. This is achieved by following the guidelines set by the NFPA design guidelines, in terms of users load and concentration, travel speed and maximum allowable time to reach a point of safety. In addition to that - and beyond static hand calculation numbers - the evacuation process is simulated through the use of the Pathfinder software package, under a number of scenarios regarding occupants' speed and exit route availability. Both methods are evaluated over several parameters such as results efficiency and type, scenario management. Results show that the major advantage of computer modeling evacuation is the ability to assess conditions and parameters such as worst case scenario, critical occupants' average speed and the influence of exit choice in evacuation time.

This allows for the overall assessment of the critical conditions that might occur during the evacuation and the overall safety of the underground space users.

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