Development of Evacuation Models for Moderate Seismic Zones: A Case Study of Montreal

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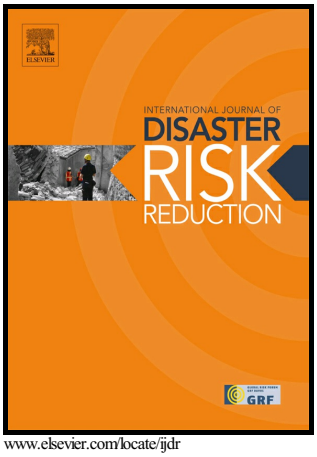

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DEVELOPMENT OF EVACUATION MODELS FOR MODERATE SEISMIC ZONES: A CASE STUDY OF MONTREAL

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Abstract

The objectives of this work is develop an innovative multidisciplinary methodology to estimate shelter needs and evacuation scenarios in the event of a major earthquake in a region of moderate seismic activity that never experienced such an event in modern history. Shelter demand is estimated through a binary discrete choice model based on a carefully designed survey using methodologies developed by seismologists, structural engineers, urban planners and transportation engineers. For each scenario, shelter allocation is based on the spatial distribution of damage and population. The methodology is demonstrated for the city of Montreal which is located in a moderately active seismic region. The results of the choice model are compared to