

Graduate Student Research Abstract – Construction Practice (Non-Pedagogical Content)

Modeling and Simulation of Evacuation Plan for Hancock Stadium

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The mission of the Modeling and Simulation of Evacuation Plan (MSEP) is to support workers and audience to execute proper evacuation plan in case of emergency for Hancock Stadium in Illinois State University. The results of the study will help people to understand the design of the current evacuation plan and generate knowledge to guide and manage identified emergency situations. The authors will also suggest possible optimization methods based on simulation results. The experience gained will help future design of large-scale venues and facilities. In this project, there are two types of evacuation methods and the corresponding process initiates identified. The types of emergent situations and the number of evacuees group the categories. The simulation is based on the Building Information Modeling (BIM) model of the Hancock Stadium using Autodesk® Revit® Architecture and Quality and Pathfinder® and Tekla Structure. The accuracy of the plan depends on the following factors: (1) real-time data collected through observations; (2) safety supervision standards; and (3) virtual simulation data collected from the developed system.

Key Words: Building Information Modeling, Evacuation Plan, Construction simulation, Safety management