KEYNOTE: HUMAN BEHAVIOR MODELING — ANALYSIS AND INSIGHTS

Abstract

The ability to model human behavior in computational tools, such as people flow and traffic modeling software, is not new to the building industry. However, recent developments have taken the underlying capability of these tools and expanded the simulation and visualization opportunities. By merging behavioral studies, game theory, and urban science, it is possible to study a wide range of design-related questions surrounding human behavior patterns in the built environment. Urban planners and architects often ponder the ways in which people will move through and occupy their designs. Economists want to understand how commercial transactions will occur over time at multiple locations surrounding a project. Policy makers want to test the impact of various decisions on the people who will be affected. By simulating various scenarios using human behavior models, it is possible to study and visualize the impacts and outcomes to the urban environment over time prior to construction. Accurate modeling provides a basis on which to assess potential opportunities as well as risks. This gives designers and decision makers the capability to identify and implement counter measures to negative factors, such as poor access, fear of crime, resiliency issues, and property value shifts. Because people are fundamental to the creation of vibrant public space, human behavior modeling can help designers, planners, and policy makers ensure success. Matt Herman will share how Buro Happold has deployed human behavior modeling in the design process. He will share experiences and perspectives gained on past projects to share a vision of future development in this rapidly evolving field bridging professional disciplines and academic research paths.

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Matthew Herman is a principal who leads Buro Happold's Chicago office and is responsible for the day-to-day operations of the MEP and environmental design teams. Matt's experience includes a variety of projects ranging in scale from system component design to master planning, primarily in the cultural and civic, commercial, residential, and education sectors. Matt's extensive experience brings an interdisciplinary approach to all of his projects, balancing architecture and engineering in a cost-effective and sustainable manner. He is especially interested in low-energy design and energy analysis including energy modeling, post occupancy monitoring, and life-cycle assessment for existing buildings and new construction. In addition, Matt is an ongoing Research-Based Advisor for PhD Candidates at the Illinois Institute of Technology.