

“The Circle” - An efficient Urban Design Achieved by Pedestrian Simulation

A pedestrian study of the planned airport city “The Circle” at the airport Zurich in Switzerland delivered important insights into the efficiency of its design. The analysis of the estimated inflows and outflows to and from the urban area at peak hours, revealed potential bottlenecks that could significantly disturb the efficiency and comfort of the location for the expected visitors.

The simulation of urban areas often implies complex structures as well as complex behaviors and route choices of pedestrians. In addition, planned urban structures lack the pedestrian data that existing structures can provide. Still, pedestrian simulation can deliver significant value through the optimization of access points and processors (stairs, escalators etc.) that influence the complex dynamics of an urban area.

“The Circle” is an innovative city center near the airport Zurich that includes hotels, restaurants, flagship stores, health services, a conference center and other amenities typical of an urban complex. Since actual visitor numbers were not available, the numbers were estimated based on occupancy per square meter and type of business. These estimations in turn were translated into the respective route choices and behaviors of the visitors to be modeled.



In urban settings, the peak hours in the morning and in the evening are the most stressed situations for any proposed design. Accordingly, the simulation time frame was set to these hours. The simulation results revealed some hot spots and bottlenecks of high people density and waiting times during peak hours. This potentially would endanger the comfortable and safe

Summary

A SimWalk simulation project revealed significant potential bottlenecks at the planned airport city “The Circle” in Switzerland that can now be improved in further planning stages. Urban areas are complex challenges for pedestrian simulation but it delivers a high value in return.



access to the location for years to come, especially if future capacity increases are taken into account. These results delivered a highly valuable input for future project improvements and will be a guide for further developments.

Contact

Savannah Simulations AG
 Alte Dorfstrasse 24
 CH-8704 Herrliberg
 Switzerland
 Phone: +41 (0)44 790 17 14
sales@simwalk.com
www.simwalk.com