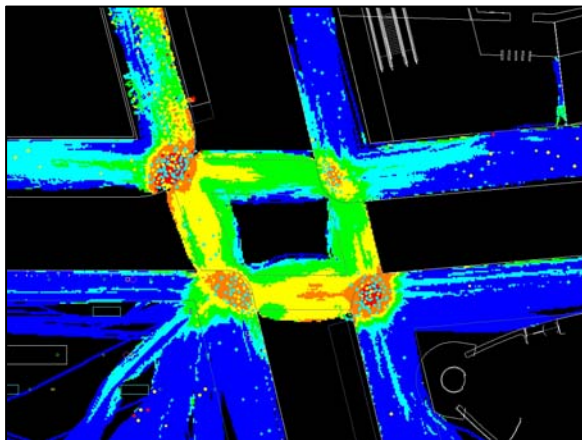


World Trade Center Memorial Pedestrian Modeling

New York, New York

The development of the World Trade Center (WTC) Memorial site is one of the most important design projects in our country's history. Since the WTC Memorial site is so sacred, the experience of individuals visiting the site has been an extremely important issue to the designers and planners. As a result, it was essential that the site provide a peaceful, non-stressful environment to the thousands of visitors that are expected to visit this site on a daily basis. As a means to evaluate the complex pedestrian environment, analyze the site to 'scale' in two-dimensions, model real time pedestrian movements, accurately depict pedestrian movements on the site, model pedestrian behavior, and to determine whether the design could adequately accommodate the projected number of visitors to the site, the Lower Manhattan Development Corporation (LMDC) and the National September 11 Memorial & Museum collaborated to develop a pedestrian simulation model of the proposed WTC Memorial site. To complete this challenging assignment, The Louis Berger Group Inc. was hired to model this complex pedestrian environment using the Legion software.



PEDESTRIAN DENSITIES AT CROSSWALKS NEAR THE MEMORIAL

The model was comprised of several areas in and around the WTC Memorial site including the plaza, the building on the site, and the surrounding streetscape. Individual site elements were modeled including queuing, security screening, vertical pedestrian circulation (elevators, escalators, and stairs), sidewalks, crosswalks, site attractions/viewing areas, signs, benches, and curb bus operations.



The model results were used to inform planners and designers how to best utilize the available open space, reduce crowding, place directional and informational signs, locate queues, and to create a pedestrian-friendly layout for the WTC Memorial site. The output also provided crucial data that allowed planners and designers the opportunity to adjust the design to better meet the needs of the site visitors. Since these crucial decisions were based upon actual data, the guess work was eliminated from the design process. In addition, the number of design iterations and the overall cost to construct the WTC Memorial site could be reduced by some of the proposed design modifications. By modeling important public pedestrian spaces like the WTC Memorial site, a new and unprecedented level of pedestrian planning has been brought to the design process.

This project has been selected as the 2007 recipient of the Institute of Transportation Engineers' Transportation Achievement Award for Pedestrians and the 2008 Diamond Award for New York State from the American Council of Engineering Companies (ACEC).



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