

1106-VG-2828 **Roshan Thapaliya*** (roshanthapalia@gmail.com), 601 Fairmont Street NW, Washington, DC 20059, and **Brian Ricks**. *Using Crowd Simulation to suggest Efficient Evacuation in Emergency Situation*. Preliminary report.

Effective preparation for evacuation can save lives in the panic following an attack on a stadium. However, it is difficult for stadium security to know beforehand where to invest its resources. Using the deadly evacuation at the Bradford City Stadium as a guide for how people respond in panic situations, we created a model of stadium evacuation. Using this model, we simulated patron movements in a hypothetical stadium following an attack that also created a spreading fire. We studied the effect of such a stadium's preparation by varying preparation factors including speed of evacuation, loiter speed at barriers, fire growth rate, and the position of barriers. We then analyzed how these factors affected the survival rates of patrons. Our results suggest that preparing patrons to choose appropriate exits and creating an environment where they can move quickly most dramatically increased survival rates. These results are consistent with the data we obtained about the Bradford City event. (Received September 16, 2014)