

INVESTIGATING THE EFFECTIVENESS OF VARIOUS CROWD CONFRONTATION STRATEGIES USING VENSIM AND THE PHOENIX INTEGRATION SUITE – A PROOF OF CONCEPT

by

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ABSTRACT

Crowd confrontations are a common occurrence. In the free World, peaceful protest is a human right. However, when a crowd becomes violent, control forces need to step in to restore order. They should do this with minimum yet sufficient force. The use of non-lethal weapons has been promoted to ensure a continuum of force between the simple presence (show of force) of the control forces and the usage of lethal means. However, the strategy and tactics for the employment of non-lethal weapons is not well developed. A System Dynamics model of crowd confrontation has been built (using Vensim) with the purpose of investigating the effectiveness of various strategies for crowd control, including non-lethal weapons. The model has been calibrated and optimized based on an extensive data collection exercise of a Canadian crowd confrontation event (The Summit of Americas, Quebec City, 2001). Besides details on the processes of data collection and calibration, this paper also provides a proof of concept regarding the use of the Phoenix-Integration software suite (that provides a Vensim 'Plug In') to determine optimal sets of strategies that would allow for successful crowd control using minimum force.