

Campus Resilience Through Research

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Institutes of higher education present unique challenges to emergency managers due to the combination of facility types and uses, the diversity of their communities and their operational mandates. In many ways, large complex campuses can be thought of as small cities. Many function 24 hours a day and never “close,” produce heat and power, have emergency services departments, and house and feed thousands of people. They may offer other social services, often with tight affiliations with healthcare facilities. They constitute several different enterprises with varying degrees of coordinated and independent governance of elected and appointed officials.

This unique context provides the opportunity for the advancement of emergency management practice. We have taken advantage of this through a year-long research collaboration at the University of Toronto between campus emergency management practitioners and academic researchers from the Faculty of Applied Science and Engineering.

Synergy of Practice and Research

Our collaboration enables us to pursue two core objectives simultaneously, essentially doubling up on the value of the work undertaken. The objectives of the study are: (1) to enhance emergency management through better understanding of the campus, and (2) to produce novel research comparing the investment trade-off between

protection (or hardening) and resilience (redundancy, diversity, adaptability).

The process involves five stages:

- Context definition (assessment of critical functions, hazards and dependencies).
- Interviews of operators, managers and users of campus facilities and utilities providers.
- Protection and resilience surveys of facilities (repeated seasonally).
- Development of risk mitigation options.
- Analysis and reporting.

Our approach revealed how advancement can be made simply through the act of such a study, and secondly, the importance of a first-principles approach. It is these matters we now consider in turn.

Advancement Through Study

As we near completion of the study, many general insights have already come to light that reveal how the act of performing such a study creates change in and of itself, even before formal reporting and implementation are made. The consequences are that:

- Addressing resilience holistically can contribute to day-to-day process improvements and efficiencies by uncovering previously unknown relationships and unused resources.
- The face-time with staff from myriad job functions initiates positive change before analysis, and subsequent recommendations are made because the dialogue exposes and generates new ways of thinking.

■ Many improvements can be made at no cost and simply required the sharing of information to expose existing capacities and capabilities. Many interviewees were unaware of existing campus resources that can support them in times of need.

First-Principles Approach

Closely related to the advancement we are already seeing on campus is the use of a first-principles approach. Such an approach requires face-to-face dialogue to trace the details of the operation, which enables the sharing of ideas and resources and the building of relationships that enable resiliency. Fundamentally, a first-principles approach is about starting from a point where no assumptions are made so that we can be sure resources and capabilities are as stated in our emergency plans and are reflected in our investment decisions between protection and resilience.

Resiliency Can Flourish

We are looking forward to the completed analysis, which will assist us in allocating our risk management resources more strategically. Fortunately, we already see many benefits of this collaboration. The synergy of the collaboration adds an economy of scale to the effort and provides utility to both parties. Meanwhile, we have already made improvements for next to no cost – showing that if you take nothing for granted, trace the pieces of the operation, and engage with people, resiliency can flourish. ▲