



THE UNIVERSITY OF BRITISH COLUMBIA



Life Cycle Management Laboratory

Fire Risk Assessment Model for Residential Buildings Using Bow-tie Method

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Motivation, Research Question and Objective



Life Cycle Management Laboratory



28% percent of
Canadians live in multi-
unit residential buildings
(MURB)



MURB are becoming
popular in Canada



65% of the fire incidents
were reported in
residential buildings

Need to predict the
probability of fire
occurrence based on
local factors

Need to incorporate
dynamic causal factors
of fire outbreaks

Fire risk rating is
important to assess the
level of service of MURB

Develop a fire risk rating
methodology for MURBs using
Bow -Tie Method

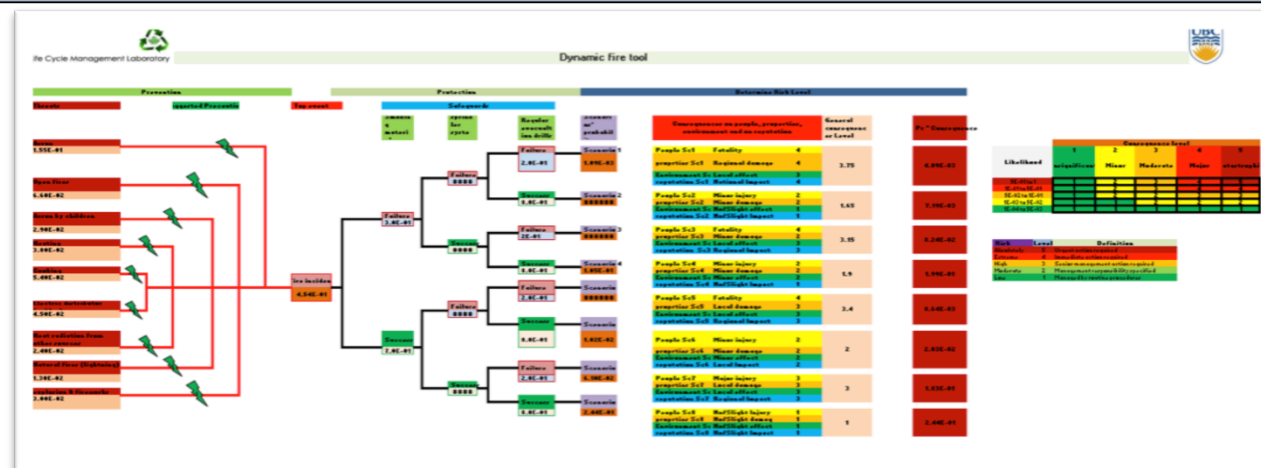
Overview of the “DynamicFire” Tool

Bow-tie method based fire risk rating tool

Quantitative fire risk management decision making method

Flexibility of use based on the context

Excel-based platform for convenient adoption



What`s Next?

Regional fire risk assessment

Incorporating data and model uncertainty

Time modelling

Developing a web-based tool

Safety in green buildings

Smart green extinguisher using sound waves to put out flames

The research team would like to thank the Canadian Association of Fire Chiefs and National Fire Information Database for funding this research.

Thank you



<http://www.ioti.com/strategy/qa-wireless-pioneer-reflects-future-iot>