

DRIE *Digest*

Disaster Recovery Information Exchange

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Montréal, Resilient City



An Interview with
Louise Bradette
CRO Montréal



Montréal, Resilient City



Interview with
Louise Bradette,
CRO Montreal

Written by Vickie Gougoulas

Montréal, Canada's second largest city is an important center of commerce, industry, tourism and culture. Montréal is home to over 1.7 million people from 120 countries speaking close to 200 languages, and 1 in 3 Montréalers was born outside Canada.

Prior to joining the remarkable 100RC, Montréal had in place a few initiatives that while not explicitly cited as resilience initiatives, formed a part of the city's capacity to deal with the shocks and stresses to which it is exposed. These programs are intended to improve citizens' quality of life and mitigate the harmful impacts of shocks and stresses on the lives of citizens. They include:

- the Schéma d'aménagement du territoire,
- the thinking on business continuity,
- the looping of the drinking water network,
- and the Plan d'adaptation aux changements climatiques (climate change adaptation plan)

These already well-established initiatives served as the basis for the development of the resilience strategy.

Montreal was chosen in the second round of cities by the Rockefeller Foundation to be part of the 100RC. As such, Montréal is leading the pack of Canadian cities involved in this initiative.

Louise Bradette is at the helm of embedding resilience into the DNA of the city. She holds three key positions simultaneously: Chief Resilience Officer (CRO) for the City of Montréal, Head of the Civil Security Center and Deputy Coordinator of Emergency Management.

It was wonderful to have the opportunity to speak with Montréal's very dynamic Chief Resilience Officer and ask her how she sees resilience unfolding in the very diverse city, she calls home.

WHAT ARE THE THREE BIGGEST THREATS TO MONTRÉAL'S RESILIENCE?

Fortunately, Montréal has largely been spared any major disasters, especially when compared to other major cities in the world. As Montréal doesn't face stress often, its citizens aren't as prepared as they could be. The top three threats are evolving climate challenges, an aging population, and aging infrastructure.

This May's excessive rainfall affected 146 municipalities. Montréal and Laval then declared a state of emergency over the flooding.

The aging infrastructure has been inadequately maintained especially in the face of climate changes. Montréal is focusing its attention on waste management and local water and power needs, services that are essential to protect residents from significant cold weather events and heat waves. Both of these types of events have intensified with climate change and urban densification.

HOW WILL THE RESILIENCE TEAM HAVE THE GREATEST IMPACT?

Firstly our team is creating internal and external networks. We are connecting with a lot of people, influencing and demonstrating how we can do things better. Our aim is to establish partnerships.

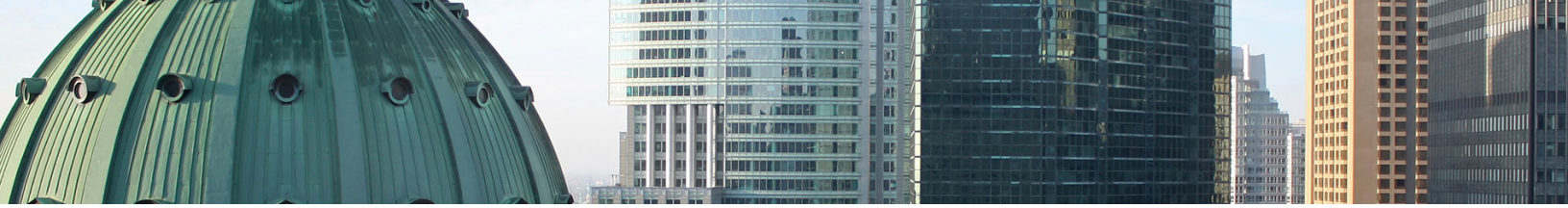
Montréal's Mayor and the CRO Office are looking to the future and know resilience will be a part of it. To achieve this we have put an Office for Resilience in place that will continue the great work that has been launched through the two years of the Rockefeller initiative. It is Montréal's objective to install resilience in the DNA of the city.

IN THE EVENT OF MAJOR DISASTERS, HOW DO YOU COMMUNICATE WITH SUCH A DIVERSE POPULATION?

There are 34 boroughs and the City of Montréal proper. Each borough has an average of 60,000 citizens. We are working with local champions to identify what works well and then repeat it. We are not reinventing. Our aim is to use the network that is already in place, understand it better and create better links with it and within it.

CANADA'S SUPPLY CHAIN, THE PORT IN MONTRÉAL AND CLIMATE CHANGE ARE INTERCONNECTED. HOW IS MONTRÉAL BUILDING RESILIENCE?

The city was built around its port and the railways that connect it to the rest of Canada. Today, the Port de Montréal generates annual economic benefit of \$1.5 billion for the



Greater Montréal region, and it has initiated an innovation shift intended to better adapt to a rapidly changing environment

The first step is to understand this multi-faceted challenge better. Collaboration between all the players: Port of Montréal, Environmental, Urban Planning, and Logistics is the next step. The Port is the door to Canada but the bridges are just as important. If the bridges are under construction or impacted by threats the supply chain is equally affected. With the recent huge flood, Montréal’s environmental department put together a plan and implemented it. There was emergency response and financial assistance in place. Thirdly, with lessons learned we are rethinking how we do things.



AN ECONOMY THAT IS A DIVERSE ENOUGH TO HOUSE VIDEO GAME DEVELOPMENT AND MANUFACTURING AIRPLANES – IS IT RESILIENT ENOUGH?

Montréal’s economy is as textured as its population is diverse. A survey of research centres and amounts invested in research and development shows that Montréal is first among Canadian cities. It is also one of just a handful of cities in the world where all the components required to manufacture an airplane are available. It is also an important hub for the video game industry. This industry alone generates an impressive \$1 billion in revenue and employs thousands. The fact that Montreal is so diverse makes it resilient. The Resilience Office is keeping in mind

that we have to attract talent to make these diverse industries operate seamlessly. The city is being reinvigorated to attract these talented minds and have areas that create a real draw for them.

HOW DO YOU THINK BEING ONE OF THE 100RC WILL IMPACT MONTRÉAL’S ATTRACTIVENESS FOR IMMIGRATION, FOR CORPORATIONS THAT WISH TO SET UP SHOP AND FOR INVESTORS?

Being part of the 100 RC has given Montréal a wonderful opportunity. We are collaborating with partners within the city and reaching out to partners outside the city. Not just to react but to mitigate. Montréal is becoming more attractive because we are evolving to try to detect what potentially may impact our city and trying to anticipate and mitigate our risks. Cities in North America haven’t been traditionally set up to do this. Montréal being part of the 100RC is giving us this opportunity. This makes us more attractive to anyone who wants to live and create a business here.

Montréal’s Mayor, the Resilience Office and the many partners in the public and private sector are extremely committed to resilience. This multicultural city is pushing hard to make the most of its tremendous resources. It is also capitalizing on the wealth of knowledge that the 100RC offers its members to create a truly evolving and resilient city.

A very warm thank you to Louise Bradette for this interview.

Louise Bradette is the Chief Resilience Officer (CRO) for the City of Montréal. She is also Head of the Civil Security Center and Deputy Coordinator of Emergency Management. With more than 20 years work experience at the City of Montréal, she understands the organizational culture inside out. Her accomplishments and main challenges include developing and maintaining a state of preparedness for Montréal, risk communication, land-use planning and business continuity.

Louise was educated at Université du Québec à Montréal (UQAM) in Administration and completed a Master in Public administration at École nationale d’administration publique (ENAP). ■



You are invited to attend...

2017 DRIE TORONTO Symposium AGM & Reception

Tuesday, December 12, 2017

Manulife Building - Main Floor Conference Room
200 Bloor Street East, Toronto

Join us for our symposium, Annual General Meeting, and annual holiday reception!

Symposium Time: Noon to approximately 3:30 PM
Reception: 3:30 PM to approximately 7:00 PM

Our featured speaker will be Elliott Cappell

Elliott is the Chief Resilience Officer for the City of Toronto. In this role he is leading the development of Toronto's Resilience Strategy and the City's participation in the global 100 Resilient Cities network. Elliott will review the purpose, objectives and accomplishments so far of his new role.

We'll also be holding our Annual General Meeting, and possibly elections for vacant director positions.

Additionally, we'll be holding our annual holiday reception, **once again generously sponsored by Sungard Availability Services at the Bishop and Belcher - 175 Bloor Street East**, across Bloor Street from Manulife. It's the same location as last year and it was a great time! Please register early for this reception as space is limited.

[CLICK HERE TO REGISTER](#)

DECEMBER 2017 — 100th year anniversary of the

HALIFAX EXPLOSION

A lesson in incident management

Written by: **Vito Mangialardi** AFBCI, CBCP, PMP
Business Continuity Management (BCM) Professional

2017 is a year with many 100-year centennial anniversaries. The Battles of Vimy Ridge and Passchendaele are good examples. The First and Second World Wars have touched the lives of many Canadians and left a lasting legacy in the history of our country. One significant event occurred on December 19, 1917 when a NHL game was played on artificial ice in Toronto. 2017 also marks the centennial year for Canada's federal income tax. However, an unfortunate historical incident, which has become known as one of Canada's greatest disasters, occurred on December 6, 1917. One hundred years ago this month.

The Halifax Explosion, as it was named, was considered a maritime disaster in Halifax, Nova Scotia, Canada. Two cargo ships collided with each other in the strait known as The Narrows, which connects the upper Halifax Harbor to Bedford Basin. One, a French cargo ship called the SS Mont-Blanc and the other a Norwegian vessel known as the SS Imo, both carrying large cargoes of ammunition, intended for use in the war. The impact caused a fire on board the SS Mont-Blanc, which set her cargo ablaze, resulting in an explosion equivalent to 2.9 kilotons of TNT. It was the largest explosion of its time, leveling two square miles of Halifax, including the harbour

facilities. The intense explosion launched one of the Mont Blanc's 90 mm guns over 5 kms before coming to rest in Albro Lake, Dartmouth. One anchor shank, weighing 1,140 pounds, took flight as a projectile and landed some 5 kms into the Armdale neighborhood of Halifax.



The Halifax Herald front page Friday December 7, 1917, the day after the Halifax explosion.

The Halifax Explosion resulted in approximately 1,600 deaths by the blast, debris, fire, or collapsed buildings that followed the event. An estimated 9,000 were injured. More than 10% of the city's population became immediately homeless. Adding insult to injury, as a business continuity or risk manager might describe as 'cascading events' the explosion also triggered a 20-foot tsunami wave that swept through the damaged areas, leaving acres of mud further inland, creating havoc and impairing response and recovery operations. Almost immediately, no potable water was available within the affected areas. Heating was not available as that night a winter blizzard hit the region with temperatures of minus 10-15 Celsius. This event remains one of the largest response and recovery initiatives undertaken for its time.



Local communications (telephone and telegraph) were lost. The lack of service impacted both local and regional response beyond the Halifax disaster area for many hours. Along with the hundreds of people who volunteered to help with rescue, medical care and recovery in the days after the Halifax Explosion, military cadets were deployed to carry messages back and forth across the city. Today, under similar circumstances, without social media and Internet, the communities impacted would be encouraged not to use their cell or land line phones except for emergencies, so congestion could be avoided and that incident responders could communicate. The Canadian Telecom Emergency Preparedness Association (CTEPA – 2015) provided Government of Canada some good practices for ‘Staying Connected in a Disaster’ https://www.ic.gc.ca/eic/site/et-tdu.nsf/eng/h_wj00316.html.

The toll on business and industry was substantial. The industrial districts of Halifax and Dartmouth were nearly obliterated by the explosion and the heart of a major business and industrial area was reduced to rubble. Twelve thousand buildings were severely damaged in the explosion, with 1,630 completely destroyed. Almost every building in Halifax sustained some damage...and there wasn't enough glass in the Maritimes to fill the jagged holes that had once been windows - that was to take months.

My research found the following sampling of business disruptions after the explosion:

- **Acadia Sugar Refinery:** seven stories of concrete and brick collapsed and disappeared into unrecognizable heaps of rubble, killing most of the day shift workers.
- **The Nova Scotia cotton mill:** located 1.5 kms from the blast was destroyed by fire and the collapse of its concrete floors.
- **The Royal Naval College of Canada:** building was badly damaged
- **Dominion Textiles:** A mile from the explosion, the mill was heavily damaged and became inoperative; fires killed many of the workers. After the explosion, Dominion Textile shifted production to other mills.

- **The Dockyards:** For almost two square kilometers around Pier 6, nothing was left standing.
- **Oland's Brewery in Dartmouth:** Building left in ruins, with 7 workers dead. Insurance money built a new brewery in Saint John, N.B., while the Nova Scotia factory was slowly rising again from the ashes. In 1971, Olands sold their business to Labatt Brewing Co.
- **Hillis and Sons Foundry:** Total building destruction with 41 workers killed.
- **Richmond Printing Company:** reduced to rubble, with more than 30 killed
- **Dartmouth's first covered rink:** for 33 years, the rink was the hub of Dartmouth's winter events. The rink was destroyed by fire.
- **Halifax (Rockhead) City prison:** Prisoners were sent to the County Jail, some remained to finish their terms and four males escaped.

The early years of the past century did not have today's demands of getting back to business in short order to meet service levels. Most businesses did not rely on technology, automation, or 7x24 operations. Unlike today, they also were not dependent to the same extent on a supply chain and reach of globalization. Business continuity planning focuses on prevention of business disruption to process, staff, technology and the supply chain for both localized or regional events greater in reach and severity. Business continuity is an activity performed by both public and private sector organizations to ensure, by implementing risk controls, that critical business functions are preserved when an emergency, or disaster occurs. This planning and implementation allows staff to continue delivering products and services, while maintaining a predetermined acceptable level of customer service. When assessing loss of the workplace over and above such as an IT server failure, or a business call centre becoming impaired, think more broadly, to consider hazards and risks such as the impacts of severe weather events, loss of commercial power or even a criminal event preventing your staff from accessing the building. It really does not matter why you cannot get into the building, you simply cannot, for a period of time.



Reference no.: Nova Scotia Archives / negative: N-1271



Halifax Explosion: A view of Halifax Harbour from the destroyed north end of the city following the explosion on 6 December 1917.
W.G. MACLAUGHLAN / LIBRARY AND ARCHIVES CANADA



Collapsed buildings of Nova Scotia Car Works on Clifton Street near St. Albans Street, Halifax, with Bloomfield School in background at right. Original photograph copied through the courtesy of Mrs. Shirley Vaughan. Photographer: Gauvin & Gentzel. Reference no. Charles Vaughan
Nova Scotia Archives / negative: N-7036

There are many good reasons to include business continuity as part of community planning, or in a business operating model. Three that always come to mind are:

- Due diligence, with life safety first (staff or public) – It makes good business sense to prepare for disaster. Defining the essential aspects and needs of the community or business and implementing a business continuity and emergency response plan to preserve them will dramatically increase recovery capabilities. That means you can implement the right recovery and protection protocols when a disaster strikes and minimize losses to both community and business. A “build it right first time” plan, with resiliency (redundancy/diversity), is always the best plan.
- Customer Service / Experience – A business continuity plan for your organization allows you to manage customer expectations and provide your products and services at all times. Proactive communications with customers and the community about your organization’s emergency preparedness capabilities and service levels during disasters will help establish reasonable response expectations.
- E-Business and Globalization – With the power of the Internet, business hours are now 24/7. A business continuity plan ensures that you are up and running when your customers, or the community, need you, wherever they are, regardless of time of day.

In my experience there are two cardinal elements to the number one rule when I think about business continuity or emergency management. That is ‘be prepared’ (meaning plan ahead) and ‘learn from the lessons of past events your business or community has experienced. Preparation starts with building a plan that suits the unique needs of the community or your business organization. You cannot predict a disaster or emergency however you can plan for one. ■

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