

# **Emergency Management In Mississauga 2016-2017 Report**



MISSISSAUGA

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# **Mississauga's Office of Emergency Management**

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# Who we are



The Office of Emergency Management (OEM) prepares the City to manage complex incidents, emergencies and disasters while ensuring continuity of services under the direction of the Emergency Management Program Committee (EMPC).

The City of Mississauga was one of the first municipalities in Ontario to adopt both an all-hazards and risk-based approach to emergency management. We assess potential hazards to the City, develop risk based plans, identify key personnel, infrastructure and critical services and develop specific training and exercises for each hazard.

We build strategic partnerships with other municipalities, government agencies, non-profits, businesses and residents to coordinate planning efforts and strengthen response capabilities city-wide.

We build community preparedness from the ground up; starting with individual preparedness and working towards municipal resilience. We believe

that preparedness is a personal responsibility, but understand that preparedness cannot come without engagement and education. The OEM provides materials and opportunities for public education and awareness so that individuals and families can better prepare themselves for emergencies.

Emergency management is a collection of people, resources, and systems working collectively toward minimizing the impact of a disaster before, during and after.

*Resilience refers to the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the impacts of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential structures and functions.<sup>1</sup>*

Our goal is to make our city resilient by coordinating efforts to prevent, mitigate, prepare, respond to and recover from an incident while maintaining essential city services and ultimately minimizing the impact of potential risks on our community.

<sup>1</sup>United Nations International Strategy for Disaster Reduction (UNISDR) (2009), UNISDR Terminology on Disaster Risk Reduction, UNISDR, Geneva

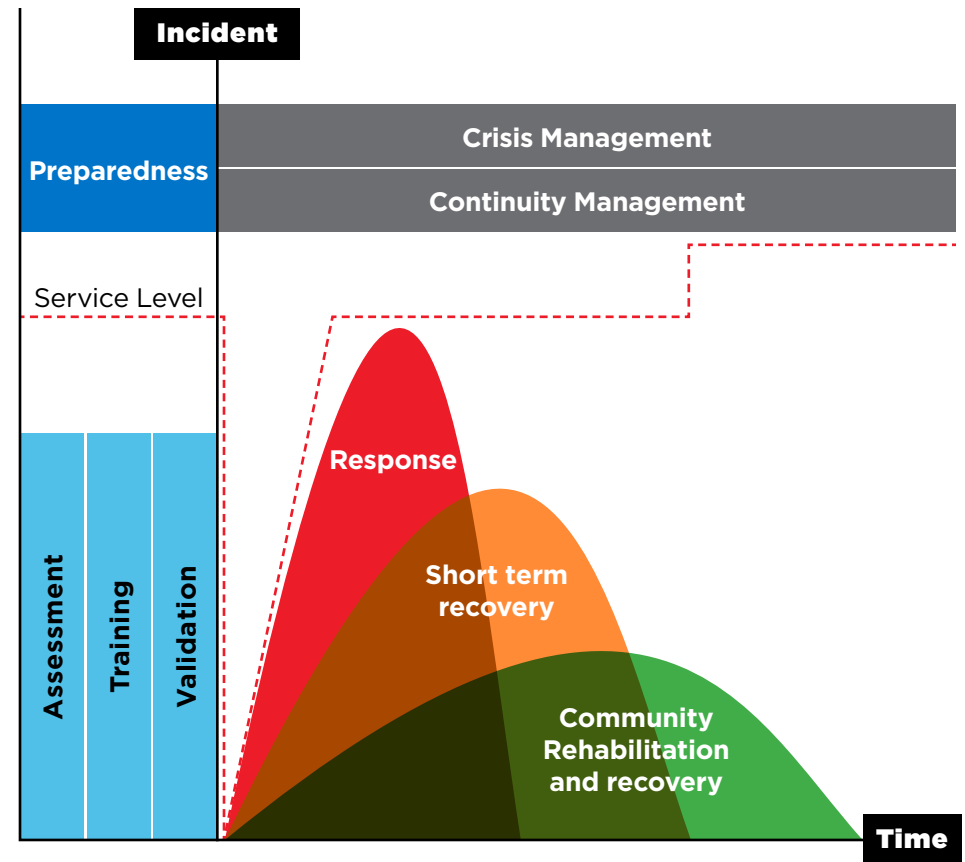
# What is Emergency Management?

The OEM creates the framework within which the City of Mississauga reduces vulnerability to hazards and copes with disasters. Our vision is to promote resilient communities with the capacity to cope with the impacts of emergent incidents.



## Emergency Management Phases

Our comprehensive emergency management program is comprised of four interdependent risk based functions: prevention/mitigation, preparedness, response and recovery.



The OEM is responsible for developing and implementing the municipality's Emergency Management Program for the protection and safety of all residents.





## Emergency Management Program Committee

The Emergency Management Program Committee (EMPC) is responsible for the development, implementation, and maintenance of the municipal emergency management program. The committee determines program goals and objectives, identifies gaps in capabilities and recommends approaches to fill the gaps. A major focus of the EMPC has been the revision of the Municipal Emergency Plan. The Plan was adopted by City Council in 2016.



# Past Emergencies in Mississauga



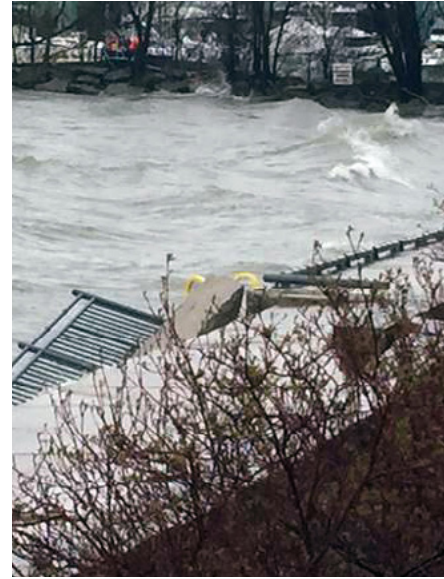
## **Train Derailment in 1979**

In November 1979, a 106-car Canadian Pacific freight train carrying mixed cargo, including dangerous chemicals, derailed at the intersection of Mavis and Dundas. One of the tank cars carrying propane exploded, and because other tank cars were carrying chlorine, the decision was made to evacuate nearby residents. The evacuation was the largest peace-time evacuation ever conducted in North America until Hurricane Katrina in 2005.



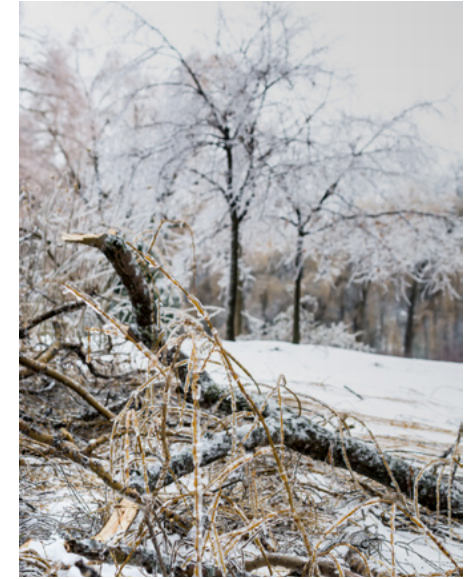
## **Power Outage in 2003**

On August 14, 2003 a software bug went unnoticed in a major electrical company's programs and a tree fell in Ohio. This combination of events initiated a massive power outage that left most of the northeastern United States in the dark for hours and, in some cases, days. The blackout covered 24,000 square kilometres and left more than 50 million people without power shutting down more than 100 generating plants in eight U.S. states and Ontario.



## **Flooding Incidents in 2009, 2013**

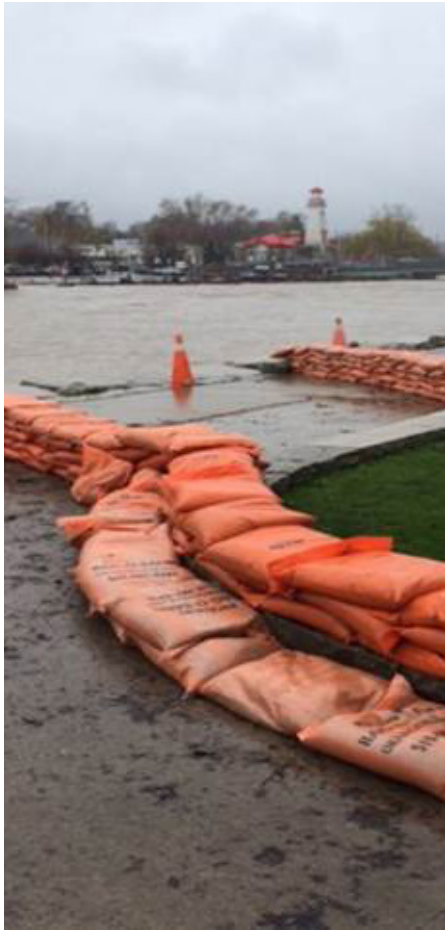
As is the case in most of Southern Ontario, Mississauga is no stranger to flooding. Flooding events in 2009 and 2013 caused disruption in services as well as loss and damages to properties that were impacted by water accumulation caused by heavy rainfall.



## **Ice Storm in 2013**

On December 22, 2013 a severe winter storm swept through Mississauga. Ice accretion was significant enough to cause major damage to city infrastructure, down power lines, and damage trees and resident's homes.

# Activations in 2016-2017



## Lake Ontario High Water Hazard

OEM supported the Transportation and Works Incident Management Team with coordination of actions and situational awareness. The activation lasted for over 30 days and Lake Ontario was above the highest water levels recorded since 1918.



## Hickory Drive Incident

On Tuesday, June 28, 2016 at 4:22 p.m., an explosion destroyed a house in Mississauga. The explosion caused two fatalities, injured nine people and prompted the evacuation of nearly 800 homes. The incident garnered extensive media coverage across the GTA requiring quick and effective communications to maintain our reputation and preserve resident confidence and trust.

City's OEM team worked closely with Mississauga Fire and Emergency Services and Peel Regional Police in unified command as well as coordinated the assistance and support of twelve City divisions and twelve community partners to respond to and provide support to the residents impacted by the blast. The OEM team continues to liaise with effected homeowners.



## Collegeway Power Outage

Maintained situational awareness for the Corporation and assisted the tenants with information.



## Cavalia's 'Odysseo' 2017

In the summer of 2017 Cavalia's Odysseo was staged in Mississauga. In addition to its five feature tents, the show featured 65 horses whose safety and potential risks needed accounting for. The OEM worked with external partner Cavalia to develop emergency plans for the event to ensure the safety of all involved. [Photo by Andrew Miller]



## Ontario Summer Games

Prepared the Major Event Incident Management Team by conducting hazard specific training and exercises.



## International Cybersecurity Events

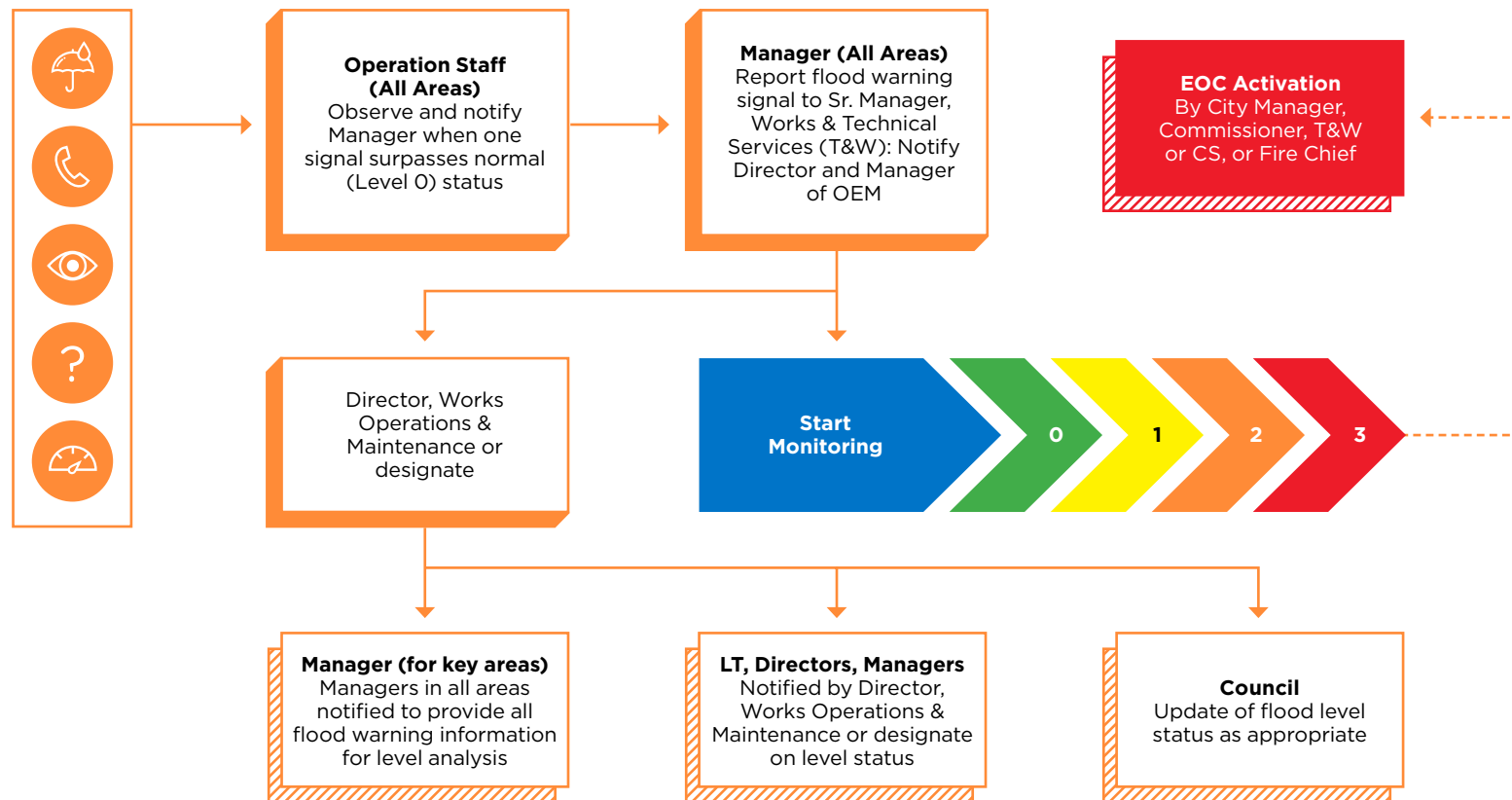
The Petya and WannaCry ransomware incidents caused international disruptions in 2016-17. Our IT risk based teams were activated on a preventative basis. They ensured appropriate monitoring of the situation and took pro-active steps to protect City infrastructure from these ransomware threats.



# The Municipal Command Centre (MCC) & Emergency Operations Centre (EOC)

The Municipal Command centre has undergone substantial changes over the past year with the intention of creating a more functional space for complex incident management. Our goal is to design a MCC and EOC that requires minimal set up time during an activation. The MCC has been outfitted with new furnishings offering greater functionality of the space and will be adding new equipment and tools to improve operational capabilities in an emergency.

Our focus for the duration of 2017 and leading into 2018 will be equipping our alternate Emergency Operations Centre for use as a functional alternative to the MCC during large scale activations.



# **Our Approach**

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# Legislative Framework and Strategic Partnerships

The Emergency Management and Civil Protection Act (EMPC) is the legislative framework under which we operate. It provides our program with target compliance benchmarks that must be achieved each year. Areas of compliance include our municipal plan, EMPC, public education, training and exercises, information management, annual review of the Hazard Identification Risk Assessment, Critical Infrastructure, and more. We ensure not only that the municipality remains compliant under the legislation; we go beyond these basic standards to build a comprehensive emergency management program utilizing benchmarking and guidelines such as Canadian Standards Association (CSA).

Our office takes a collaborative approach to emergency management; building strategic partnerships across the province in both the public and private sectors. We work with community organizations and partners that are responsible for critical infrastructure, essential services and public safety.





# An Environmental Scan

The OEM monitors events around the world to determine the impact of any potential emergencies that can impact us. The team keeps an eye on economic, political, technological, environmental and social trends across the globe.

We have developed improved processes for Hazard Identification and Risk Assessment (HIRA) including an update of the existing HIRA and the Critical Infrastructure Assurance Program.



# Hazard Identification and Risk Assessment (HIRA)

Every incident presents its own set of unique challenges. Below is a list of identified risks for the City of Mississauga based on the newly revised Hazard Identification and Risk Assessment (HIRA). Hazards are ranked based on the probability of occurrence and the severity of impact.

## Top natural hazards for Mississauga



**Flood**



**Freezing Rain/  
Ice Storm**



**Windstorm**



**Extreme  
temperature:  
Hot and Cold**



**Snowstorm/  
Blizzard**



# Critical Infrastructure Assurance Program (CIAP)

Although Ontario legislation only requires we list all identified critical infrastructure within the municipality, the OEM has gone a step further in protecting our assets by developing the Critical Infrastructure Assurance Program (CIAP) as recommended by the Province of Ontario and the Government of Canada.

Planning for the CIAP began in 2016 with the development of the program charter and was officially initiated in 2017. The program focuses on reviewing and updating the City-owned critical infrastructure list with the goal of prioritizing assets in regards to risk and criticality. This will be achieved through detailed risk assessments involving input from various stakeholder groups within the City.

In the program's initial year we have completed risk assessments on two identified assets; first on Woodlands Library on September 15 and then on Mississauga Valley Community Centre on September 29. Risk assessments will continue into 2018.







## Training

Legislation requires municipal training programs to ensure readiness of EOC staff to activate the emergency plan and respond to incidents. The OEM's approach to training is twofold: Firstly, it ensures that MCC/EOC staff is offered Incident Management System (IMS) training to be able to learn about their respective role and responsibility. Secondly, the OEM provides annual emergency management training with regards to the most probable hazards in areas that are integral to municipal emergency responses and EOC functions.

### IMS Training

The OEM is responsible for ensuring that City staff is appropriately trained in IMS. The Office of the Emergency Management staff are certified IMS instructors. As such, we are able to offer in-house IMS training.

Over the period of 2016/2017, the number of City employees who received IMS training is as follows:

- IMS 100 – 76 personnel
- IMS 200 – 67 personnel
- IMS 250 – 29 personnel
- IMS 300 – 24 personnel

### Severe Winter Weather Event Training

On September 11 2017, the OEM held their annual training conference. This year's training centred on a severe winter weather event and featured guest lectures. The session included topics such as situational awareness, evacuations, damage assessment, emergency social services and debris management. The Mayor, Councillors and city staff from various city sectors representing the MCC/EOC team participated in the training session.

# Exercises

As with training, we are required by legislation to run at least one municipal exercise each year. The OEM has led and participated in a number of exercises of various scales in 2016 and 2017. Exercises we have led in 2016 and 2017 include:



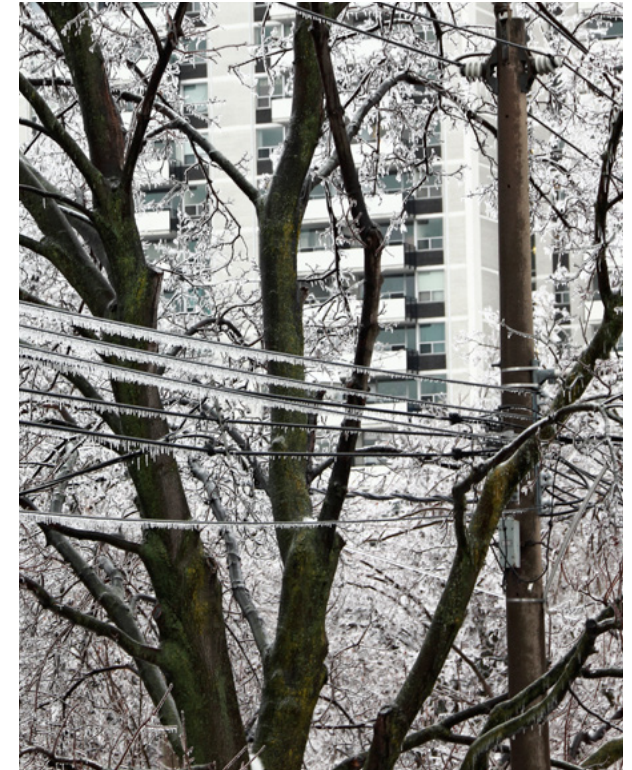
## Muddy Waters, 2016

The Muddy Waters exercise was designed to prepare the City's risk based team for an inevitable flood response. It included the storm warning, storm occurring, and storm recovery phases with the intention to exercise our response in an IMS structure.



## Ontario Summer Games, 2016

In preparation for the Ontario Summer Games, 2016, we designed a tabletop exercise geared towards coordinating the comprehensive response activities based on an issue, incident, and crisis for the Games.



## Severe Winter Weather, 2017

Similar to Muddy Waters, our Severe Winter Weather exercise in December focused on response to an ice storm. The exercise continues to develop our risk based teams' capabilities to respond in a MCC/EOC setting. The scenario for this exercise was developed with input from Environment Canada.

# **Business Continuity At The City Of Mississauga**

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**The City of Mississauga is currently establishing a Business Continuity Management (BCM) Program to increase resilience and mitigate the harmful effects of an outage in any part of the organization. The program takes a holistic, all-hazards approach guided by best practices in both public and private BCM programs.**

The Office of Emergency Management (OEM) is working with different business units across the City to identify critical services and develop solutions and plans to create continuity strategies. The City is adopting a phased approach in implementing these continuity plans. The aim is to minimize disruption time to the public and costs due to loss in service during and after an emergency.



# **Public Education and Engagement**

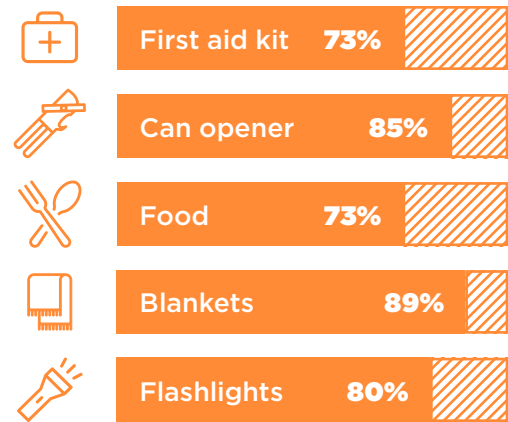
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**Under EMPCA legislation we are required to develop a public education program. The OEM takes an evidence-based approach to public education.**

The City of Mississauga recently conducted an online survey to understand how prepared residents in Mississauga are to deal with an emergency situation. More than 550 responses were received and of those, approximately 66 percent indicated they live as well as work in Mississauga.

Overall, the survey results tell us that residents have a general awareness of the potential hazards we could face in Mississauga. They understand the importance of home and tenant insurance but need to learn more about emergency preparedness in the home and with their families.

**Respondents said they have these items in case of an emergency**



**91%** residents have home insurance, **74%** have coverage for additional living expenses and **55%** for flooding.



**37%**

discussed emergency preparedness with their families



**63%**

are unaware of what goes into an emergency kit for the first 72-hours of an emergency situation



**11%**

are unaware of what a 72-hour kit is and the need to be prepared



**15%**

discussed a contact plan for getting in touch with their family if they get separated

# Precautionary Measures — understanding the risks

During an emergency, people receive their information from a variety of sources such as online publications, radio, television, and social media. More than **81%** respondents use the internet to access emergency updates through various informational websites and media channels. Over **75%** of the respondents also listen to emergency updates on radio and about **60%** rely on television news.



Respondents felt they are aware of some of the potential risks and hazards that Mississauga can witness such as:



**50%**  
freezing  
rain and  
ice storms



**23%**  
flooding



**53%**  
snowstorms  
and  
blizzards

In the event of an emergency, there can be potential risks and hazards to pets as well. Of the respondents:



**42%**  
are pet  
owners



**65%**  
have  
water



**90%**  
have extra  
food

In the event of a power outage, only a few respondents are prepared with items such as:



**41%**  
battery-  
operated  
radios



**37%**  
alternate  
heat  
source



**7%**  
back-up  
generator





Building upon the information gathered in our 2017 surveys, our goal going into 2018 is to increase our program's presence in the community and overall public preparedness. As a part of these efforts, the OEM team released our guide to flooding prevention and recovery and participated in several community events such as Corsair Public School's BBQ and the annual Earth Market in Celebration Square. The OEM booth at the Earth Market

event promoted 72-hour preparedness plans, taught residents how to build a 72-hour emergency kit for their family and pets, and piloted submissions for the upcoming Mississauga Emergency Preparedness Cookbook. Another upcoming project for 2018, the cookbook will be a community built collection of recipes that can be made during an emergency with ingredients typically found in a standard 72-hour emergency kit.

# **Way Forward: Action Plan 2018–2020**

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# DisasterLAN

One of our major projects leading into 2018 is the implementation of DisasterLAN (DLAN) into our response structure. DLAN is a virtual emergency operation centre software that will serve as an effective tool and provide a common operating platform that allows the coordination of emergency activities to be performed regardless of geographic location. Its use will improve situational awareness and the decision making in both emergency and non-emergency situations.

OEM staff is being trained as DLAN instructors so they can provide appropriate training for the rest of the organization. Training for remaining EOC staff will begin in 2018.



## Action Plan 2018-2020

The EMPC and OEM will continue to improve our municipal emergency management and business continuity programs through an evidence based approach, implementation of lessons learned in critical events around the world, training and exercises based on probable hazards in our City, risk based plan development, and ongoing working groups and partnership engagement where there are interdependencies.

### Some of the key action items for the OEM are:

- Revising existing risk-based plans and creating new plans for emerging or changing risks that may impact the residents.
- Developing a robust business continuity program to ensure seamless functioning of city departments during an emergency.
- Building a highly trained Incident Management System EOC team with clearly defined roles and responsibilities.
- Establishing agreements and exploring partnership opportunities with external agencies and the private sector.
- Developing educational and awareness campaigns to better inform stakeholders about the various risks that the City may face.
- Exploring volunteer programs/community emergency response teams.
- Managing the Critical Infrastructure Assurance Program.
- Developing effective communications and information sharing practices for working with stakeholders – internal and external.
- Implementing DLAN technology solution to provide seamless tracking, managing, and reporting on all types of incidents and events.
- Improving our MCC/ Emergency Operating Centre (EOC) technology and operations to manage planned and unplanned events, incidents, emergencies and disasters.







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