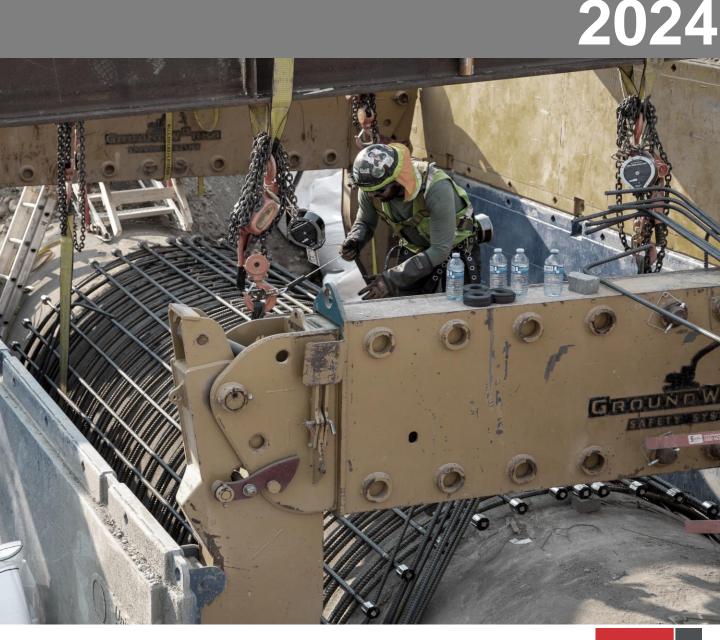
Status of

EM2025-0191 ATTACHMENT 2

Emergency Preparedness in Calgary



Calgary Emergency Management Agency





Chief's Message

In our 2023 Status of Emergency Preparedness Report, we focused on the "new normal" of emergency management – highlighting the increasing trends in disaster severity, frequency, and complexity.

As we present the 2024 Report, this new normal theme from last year proved to be prescient for 2024. While 2023 was, at the time, a record-breaking year for the Calgary Emergency Management Agency (CEMA), 2024 smashed some of those records, with the Emergency Operations Centre open for more than two months total in response to the Bearspaw South Feeder Main break, the Jasper Wildfire evacuations, and other smaller events.

As I reflect on the highlights in this report, I am extremely proud of the more than 50 member agencies that make up CEMA and everything they did in 2024. This group of dedicated individuals come from City of Calgary services and external organizations across the spectrum of our community. These Agency members came together to provide expertise, resources, time, effort, and energy to help take care of the people of Calgary, Jasper, and beyond in their time of need. In addition, they trained, planned, exercised, and collaborated in numerous programs to help make this city safer and more resilient.

While we don't know what 2025 will bring, we are aware of the increasing risks and strain on City services and staff. It is important to plan for the impacts of emergencies for all City programs and services, not just for traditional emergency services. Thankfully with our incredible Agency members, City and community partners we can work together to implement strategies focused on reducing risk and increasing resilience.

Chief Susan Henry Emergency Management & 9-1-1

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As per Calgary's Emergency Management Bylaw, the Calgary Emergency Management Agency (CEMA), is comprised of the more than 50 internal and external services and organizations that come together to prepare for, respond to, and recover from emergencies and disasters. These representatives are known as Agency Members. CEMA also includes The City of Calgary staff within Emergency Management and Community Safety (EMCS) that administer and support the Agency. These EMCS staff come from different teams. In this report, the title CEMA is used to refer to the full agency, including both these core staff and the wider Agency member group. When discussing staff activities, this report may refer to the specific staff branch within EMCS, or "CEMA Staff" as a shorthand term for activities that cross different functional areas.

2024 By the Numbers

6200+

Attendees at 48 community preparedness events

6 New emergency preparedness videos available in Amharic, Arabic, English, Mandarin, Cantonese, Punjabi, Spanish, and Tagalog

First ever Broadcast Intrusive Alberta Emergency Alert issued

76

Total days the Emergency Operations Centre (EOC) was open when the Municipal Emergency Plan was activated

54

Total calls for support to the CEMA on-call representative, including 36 after hours calls

1000+

Youth who accessed Ready Squad e-course

Core training courses

completed by CEMA

Team staff in 2024

Number of days under

a State of Local

Emergency (SOLE)

1800

Jasper wildfire

evacuees hosted in

Calgary, utilizing over

1000 hotel rooms

17

Employees from across the corporation completing industryleading business continuity training

51

Agency Members completing the EOC 101 training course

76%

Agency Members with 3 representatives completing at least one core CEMA course

43

Days EOC was open for the Jasper Wildfire response, one of the longest single openings ever

34

Canada Task Force 2 Members deployed over a total of 29 days

63

Deliverables assigned in the Feeder Main recovery and Resilience plan. More than half are now complete

36

Agency Members completing the EOC 201 training course

120

Applications reviewed by Planning & Development identifying mitigation measures to limit impact of disasters on communities

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1st activation of the Corporate Recovery Plan (annex of the MEP) since 2013 flood

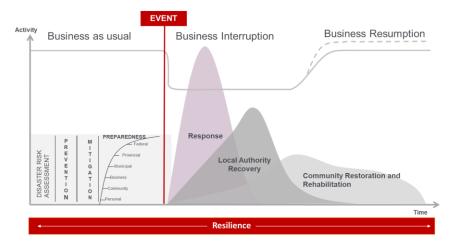
Comprehensive Emergency Management

 Improve understanding of disaster risk.

core outcomes of this approach are:

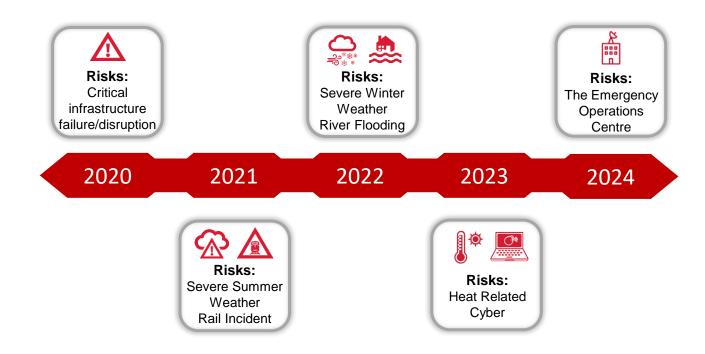
- Enhance disaster risk reduction governance, policy, and practice.
- Strengthen community
 preparedness.
- Enhance disaster response capacity and coordination.

As we reflect on 2024 and the increasing risk trends, we will continue to focus on the risk reduction approach to manage disasters and emergencies in Calgary.



Presentations to Council

Through 2020-2024, CEMA provided the Emergency Management Committee of Council with an in-depth understanding of Calgary's disaster risk environment and the work The City and Agency members are doing to address Calgary's high risks. In 2024, rather than focus on a specific risk type, CEMA focused on the internal risks to The City of Calgary, and how the increasing risk trend and demands on the Emergency Operations Centre are impacting CEMA, the Agency, and The City as a whole.



Understanding Disaster Risk

Understanding disaster risk is the foundation for all other disaster risk reduction work. The City of Calgary completes a Disaster Risk Assessment every 4 years and conducts an annual review to assess year-over-year and to identify new emerging risks. There are currently 19 hazards and threats assessed as High Risk that represent the most significant risk to Calgary and are the highest disaster management priority.

Natural



Extreme Cold, Extreme Heat, Flood (Bow River 1:100 & >1:200), Flood (Elbow River > 1:200), Heavy Rainfall, Pandemic, Tornado, Winter Storm



Technological Critical Infrastructure Failure, Dam Breach (Bow River), Dam Breach (Elbow River), Rail Incident, Water Distribution Infrastructure Failure

Human Induced

Active Assailant, Mass Attack, Cyber Attack (Critical Services/Infrastructure), Mass Gathering Incident, Protest or Demonstration (Illegal)

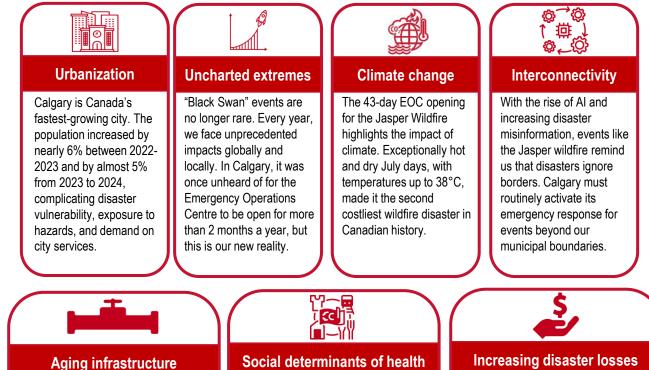
Calgary's Disaster Risk Landscape

Overall, there are 66 risks assessed in Calgary's Disaster Risk Assessment. These are evaluated based on risk trend, likelihood, and consequence to provide a risk level assessment of high, medium, low, and very low risk levels.

High Risk	Active Assailant Critical Infrastructure Failure Cyber Attack (Critical Services or Infrastructure) Dam Breach (Bow River) Dam Breach (Elbow River) Extreme Cold	Extreme Heat Flood (Bow River 1:100) Flood (Bow River >1:200) Flood (Elbow River >1:200) Heavy Rainfall Mass Attack Mass Gathering Incident	Pandemic Protest or Demonstration (Illegal) Rail Incident Tornado Water Distribution Infrastructure Failure Winter Storm
Medium Risk	Basement Seepage Flooding Bridge Failure/Interruption Cybercrime (Data Fraud/Theft) Electric Power Blackout Extreme Hydrological Drought Extreme Solar Storm Hailstorm Hazmat Incident Industrial Accident Lightning Storm	Loss of Major Transportation Corridor Major Solar Storm Poor Air Quality Riot Road Accident Sanitary Forcemain Failure (Lift Station) Security Incident at City Facility Slope Failure/Landslide Stormwater Backup Flooding Structure Fire	Supply Chain Interruption Supply Emergency (Natural Gas) Telecommunications Failure Thunderstorm Transit Rail Incident Water Contamination (Distribution) Water Contamination (Downstream of Reservoirs) Wildland/Urban Interface Fires Windstorm
Low Risk	Aircraft Incident Earthquake (Magnitude 4.0+) Flood (Elbow River 1:100) Flood (Ice Jam) Fog Forcemain Failure (Purple Pipe) Forcemain Failure (Sludge)	Gas Main Break Hostage Incident Ice Accumulation Labour Action Moderate Pandemic Pipeline Incident (AER lines)	Pipeline Incident (TNPL to YYC) Sanitary Failure (Water Body) Water Contamination (Spills) Water Contamination (Spills Upstream Glenmore)
Very Low Risk	Treated Effluent Pump Station Failure		

Risk Trend and Complexity

In 2024, the risk drivers and trends highlighted in Calgary's Disaster Risk Assessment played out in stark display right on our own doorstep:



Aging infrastructure

The Bearspaw South Feeder Main break in June served as a reminder that municipalities across Canada are dealing with aging infrastructure and increasing potential for failures that can disrupt critical services as well as public safety.

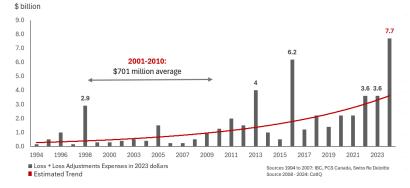
Underlying sociodemographic factors directly contribute to disaster vulnerabilities or resilience. In 2024, the rising cost of living, housing prices, inflation, and income disparity adversely affected Calgarians' capacity to withstand disaster shocks.

According the Insurance Bureau of Canada. "the summer of 2024 now ranks as the most-destructive season in Canadian history for insured losses due to severe weather. In two months, July and August, the summer eclipsed the worst year on record and pushed the 2024 year-to-date tally to over \$7.7 billion."

The Increasing Influence of Climate Change

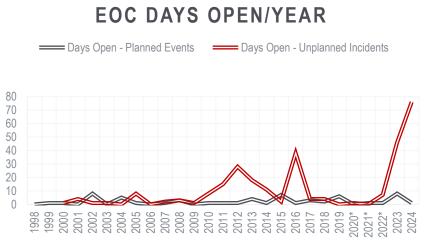
"Alberta experienced four of this year's most impactful events, including another destructive hailstorm in Calgary that caused \$2.8 billion in insured losses. This was Canada's costliest weather event in 2024 and the secondcostliest overall in our nation's history. While the rising cost of events like these partly reflects our expanding communities and increasing property values, there's a deeper story at play: climate change is accelerating far beyond natural rates, due to human influence. Climate change is intensifying both the frequency and severity of certain kinds of extreme weather events." - ECCC1





Risk in Profile: EM2025-0191 The Emergency Operations Centre

The Emergency Operations Centre (EOC) is a centralized location providing coordination and collaboration for large scale incidents, staffed by Agency members. As disasters become more complex, frequent, and costly, we have a 'new normal' for emergency management in Calgary, creating increasing risks and strain on City services. In 2024, the EOC was open for a record-setting 76 days, coordinating responses to the Bearspaw South Feeder Main break and supporting evacuees from Jasper wildfires. This demonstrates that disaster duration, expectation, and complexity are changing.



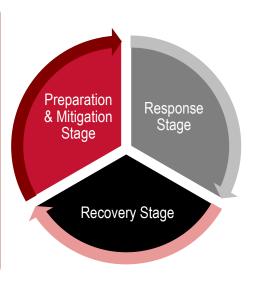
When the EOC is activated for disaster, response and recovery it significantly impacts regular business and service delivery at The City of Calgary. The EOC is staffed by a diverse group of subject matter experts from various departments within The City. This includes not only emergency services but also essential support services such as Finance, Human Resources, Facilities, Information Technology, Supply Management, and Customer Service & Communication, along with other sector-specific representatives. These teams manage their regular duties while also fulfilling the additional responsibilities required at the EOC.

Impacts when the EOC is open

Preparation and mitigation (impacts between events)

With the frequency and duration of events increasing, there is less time between events for staff to return to regular business, psychologically recover, and prepare for the next event.

City employees and external Agency members who participate in activations at the EOC must participate in emergency and disaster management training, exercises, and planning, which takes those employees away from regular business even when there is no emergency.



Response

Enabling services staff and resources are deployed to the EOC. Emergency Social Services members from business units at The City are deployed to support the immediate needs of evacuees.

Up to 20% of the Supply Management, financial and other resource staff are reallocated to support staff at the EOC, impacting the ability to provide regular services.

Communication campaigns for regular services can be postponed, paused, or cancelled to create room for emergency messaging and avoid potentially conflicting messaging.

Recovery

Initial work to plan for recovery begins while response efforts are still underway, often drawing on the same City staff involved with initial response efforts. For enabling services, the recovery stage can mean months of reconciliation work while getting back to regular business.

Preparedness and Mitigation

As CEMA adapts to increasing disaster trends and impacts, preparing for potential emergencies becomes more important than ever. Although in 2024, we spent more time in the response phase than ever before, we also completed numerous initiatives to prepare our CEMA staff within EMCS, the Agency, and the community for possible disaster response. We worked within our sphere of influence to mitigate or prevent risk where possible.

Exercises	functional exercise was a Tornado scenario for all Agency members.	The fall tabletop exercise for internal City of Calgary Agency members vas based on a Cyber Security ncident.	CEMA facilitated a tabletop exercise for the Rapid Damage Assessment Plan, with Development, Business and Building Services, CFD, CPS, ENMAX, and ATCO.		2 tabletop exercises were held in preparation of the 2024 Stampede to prepare operational agency members and solidify responsibilities (both parade and grounds).		
Plan Reviews	CEMA initiated a major review of the Municipal Emergency Plan, which is anticipated to be complete and implemented by May 2025.	The Spring exercise findings fed into emergency plan rev including the Tornac and the Severe Spri Summer Storm Plan	iews do Plan ng	CEMA revie Agency mer emergency and provide CEMA's role	mbers' response p d feedback		CEMA provided support and consultation for other municipalities who were reviewing their emergency plans.
Business Continuity	The Business Continuity and Risk Reduction team within EMCS hosted two educational opportunities for Business Continuity Coordinators focused on cyber security related disruptions. The events were jointly facilitated with subject matter experts including from the Corporate Security Cyber Security team and IT Incident Management, laying the groundwork for further cyber resilience enhancements to the corporate business continuity program in 2025.						
Training and Operational Readiness	61 core training courses were attended by CEMA staff within EMCS. Additional training sessions were held focusing on preparing for their roles and responsibilities in the EOC.	51 Agency members completed EOC 101 training. 36 completed EOC 201.	Service adopted Province evacue registra system membe	ial online e tion . 98 rs were prior to the hazard	ESS par with Alph to provid online ar person tr better su evacuee complex	na House e both nd in- raining to pport s with	volunteered 17,774 hours in training

Response: EM2025-0191 ATTACHMENT 2 Bearspaw South Feeder Main

The City of Calgary experienced a catastrophic break on the Bearspaw South Feeder Main on June 5, 2024. This feeder main is the largest type of water pipe in Calgary's network and distributes a significant portion of the city's treated water supply. During the repairs in June 2024, 5 additional "hot spots" or emergency repair locations were discovered. In July through October 2024, additional urgent repair work was carried out on 21 segments along the feeder main and this was coordinated across city departments by the Water Tactical Operations Centre - H2OC.

The Bearspaw South Feeder Main response was one of CEMA's longest activations outside of an Emergency Social Services response. Over 50 Agency Members collaborated to provide support and resources in the response. The response to the feeder main demonstrates the importance of strong relationships and partnerships and the critical role they play in managing complex emergency events. There were also additional factors that made the response more complex, including service impacts to other municipalities, challenges with providing timely updates to the public, political interest, and changing timelines for repair.

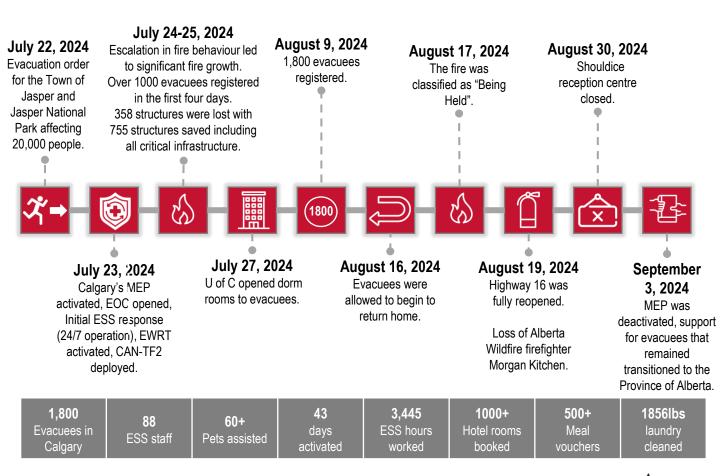




Footnote: These statistics reflect the time the EOC was open, not the entire Bearspaw South Feeder Main response. The total days for water restrictions, bylaw misuse, service requests, press conferences and media releases will be provided in the Bearspaw South Feeder Main response report.

Response: Jasper Wildfire

2024 saw one of the longest Emergency Social Services (ESS) activations in CEMA's history with 88 ESS members supporting 1800 Jasper Wildfire evacuees for 43 days. The continued support of CEMA Agency partners is integral to any ESS response. The Non-Profit Organization (NPO) Liaisons out of Community Strategies spearheaded the evacuee laundry service, found support for evacuees with specialized needs, and coordinated the amazing work of the Emotional Wellness Response Team (EWRT), a collaboration of community partner organizations providing emotional wellness supports to evacuees.



Canada Task Force 2 (CAN-TF2) Deployments

CAN-TF2 is a partnership between the federal and provincial governments along with The City of Calgary. It has an urban Search and Rescue mandate federally and an overall disaster response mandate provincially. 2024 was a significant year for the team, with CAN-TF2 deploying multiple waves to Jasper in support of the July Wildfire Event. In addition to supporting Alberta Emergency Management [AEMA] with Incident Management Teams, CAN-TF2 deployed in support of Parks Canada –the first ever deployment supporting a federal agency in the history of the Task Force Program. CAN-TF2 also provided support directly to The City of Calgary Jasper Evacuee response. This included Task Force members and equipment for key ESS events, and ongoing logistics support for the duration of the reception centre operations.



34 Members committed over 3500 hours to Jasper Response

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Adapting our **Response**

After Action Reviews

After each EOC opening, an after-action review takes place to learn from the event. These reviews provide an assessment of The City's management and coordination of the disaster and/or planned event in an open and constructive manner, with an aim to continuously strengthen the City's capacity to manage such events.

For the Bearspaw South Feeder Main incident, four debriefing sessions were conducted to identify strengths, areas for improvement and actionable recommendations to improve future EOC openings. Areas for improvement include: clarity on roles and responsibilities, alterations to EOC operations, enhancement to the flow of information and communication. Action items identified in this review will be prioritized based on impact to EOC operations, assigned to appropriate leads, and integrated into staff workplans. The learnings from this incident will be used to improve future EOC openings to continuously strengthen The City of Calgary's capacity to manage emergency events.



For the Jasper Wildfire incident, there were three debriefing sessions. The findings from the debriefs are still being compiled, however early reviews indicate that this opening provided ESS with the opportunity to apply some of the identified advancements as a result of the 2023 Yellowknife Wildfire response. The ESS team is already working on improvements to those implemented processes as well as others. These review processes are part of CEMA's dedication to learning and improving response for the City of Calgary and all those we serve.

Looking Ahead to the Future

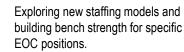
With the changing risk landscape in Calgary and increasing risk to City services and staff during disasters, The City is continuing to evolve and adapt to the future by:



Updating the Municipal Emergency Plan to reflect the corporate realignment and incorporate recent lessons learned.



Working with provincial and federal partners to improve interjurisdictional response.





Examining the need for future budget requests to address growing resource challenges.

Completing after action reviews and implementing recommendations from the Bearspaw South Feeder Main break and Jasper wildfire events. Findings for the Bearspaw South Feeder Main event will be provided as part of the feeder main interim updates planned for Q1 2025.



Enhancing mental health support for staff before, during, and after a response.



Continue the collaboration with City Council to accelerate information sharing with the public and strengthen alignment.

Risk Reduction and **Mitigation**

Disaster Risk Reduction concentrates on preventing new risk, reducing existing risk, and managing residual risk to increase the resilience of people, communities, infrastructure, natural environments, and systems. At its core, Disaster Risk Reduction is focused on proactively managing risk in all its forms rather than only reactively managing consequences.

In 2024, the Continuity and Risk Reduction team contributed to this proactive risk reduction approach by:

- Contributing to two Local Area Plans and three Area Structure Plans by providing disaster risk considerations and expertise to designs and plans.
- Supporting the Alberta Climate Ready Homes adaptation initiative to improve the residential resilience of our community. The Alberta Climate Ready Homes adaptation initiative uses research to guide the development of effective measures to reduce the risk of climate-related impacts on new and existing home.. This multi-year project advises on/contributes to risk reduction principles within the Calgary River Valleys Project and The City Building Program (Calgary Plan & Zoning Bylaw).

"

The Continuity and Risk Reduction team works to 'Ensure that land use, development, urban design, and transportation infrastructure planning processes incorporate collaborative design principles that proactively address risk reduction for various disaster types in Calgary. This includes integrating resilience strategies that mitigate the impacts of natural hazards such as flooding, wildfires, and severe weather events, while fostering sustainable, adaptive communities. Focusing on risk-informed decision-making allows us to create safer, more resilient urban environments that protect people. property, and critical infrastructure in the face of increasing climate variability and urban growth.'

Recovery and Resilience

To coordinate efforts related to recovery from the Bearspaw South Feeder Main Break, 2024 marked the first activation of the Corporate Recovery Plan since the 2013 flood. After completion of repairs to the initial break and five additional high-risk areas, The City transitioned from the acute emergency response stage into ongoing stabilization and system recovery. While the EOC closed and the MEP was deactivated, the Water Emergency Operation Centre (H2OC) remained busy continuing to bring the feeder main back into increased service, assessing for additional issues, and managing the drinking water distribution system during the period of reduced capacity. While the initial response was ongoing, The City began the process of recovery planning. In late June 2024, the Executive Leadership Team (ELT) approved the establishment of a Corporate Recovery and Resilience program to lead corporate recovery activities from the June 5 Bearspaw South Feeder Main disruption event and provide oversight of recovery and resilience activities.

The Recovery and Resilience Coordination Team worked with a cross-corporate task force to:

- Identify feeder main recovery needs
- Develop, assign, and support workplans to address recovery needs
- Communicate recovery and resilience information with "One Voice" to all interested parties
- Understand and support the implementation of relevant lessons learned from internal and external reviews

While most of this work has now transitioned back into regular business, the Recovery and Resilience coordination coming out of the feeder main break was a key initiative in ensuring an effective transition from response to long term recovery.

Preparing our Community

Building Connections



CEMA hosted its second annual symposium on October 8-9, 2024, themed "Emergency Management and the Evolving Climate". The event served as a professional development opportunity bringing together over 200 local and regional emergency management leaders for education and networking. Attendees were emergency management professionals from The City of Calgary, Canada Task Force 2, partner agencies (including government, private, non-profit, and academic sectors), and other municipalities from across the province and country.

Preparing Calgarians

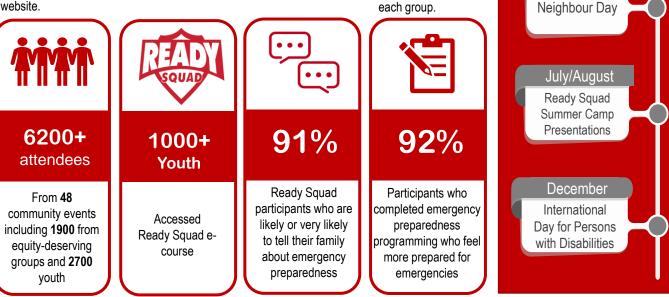
The Community Preparedness team engaged with Calgarians throughout the year, focusing on building household and community preparedness for emergencies. Initiatives in 2024 included:

Hosted annual Emergency Preparedness Week activities where our teams attended 6 different community events spread across the city. This included a successful marketing campaign focused on increasing awareness and driving traffic to our website.

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Provided Junior Weather Forecaster kits to 7 schools in Calgary. These kits include hands-on experiments. Designed for grade 5 students, the kits help them learn to measure weather phenomena and identify hazardous weather conditions in Calgary. Completed 6 emergency preparedness videos covering general preparedness, wildfire smoke, community connections, summer storms, extreme heat, and tornadoes. These videos are available in Amharic, Arabic, English, Mandarin, Cantonese, Punjabi, Spanish, and Tagalog.

Conducted several presentations on emergency preparedness for different groups in Calgary, including children and youth, people with disabilities, newcomers, older adults, and business groups. These presentations were tailored to the needs and vulnerabilities of each group.



Preparedness Community Events 2024

February

Teachers'

Convention

March

Safety Expo

May

Emergency

Preparedness

Week

June

Mavor's

Environmental

Expo

June



The Year Ahead



ENHANCING DISASTER RESPONSE CAPACITY

To address the demands of increasing disaster risk, EMCS will strengthen its response capacity by: completing updates to the Municipal Emergency Plan, engaging individually with each Agency member to review and update roles and responsibilities, implementing lessons learned from the 2024 hazard season, redesigning Agency training courses as professional eLearning courses, completing a recruitment drive for new ESS members, advancing the national urban search and rescue program through Canada Task Force 2, and working closely with partners to prepare for the G7 Summit in June 2025.



BUILDING INTERNAL PREPAREDNESS

Along with enhancements to CEMA and Agency preparedness, we will engage with all levels of the corporation to build capacity, deliver education and training, clarify roles and responsibilities, refine processes, and build bench strength in key roles. This includes training for the Executive Leadership Team and Council related to their roles during emergencies, as well as exploring staffing models to meet the needs of emergency response and recovery.



BUILDING CRITICAL SERVICE RESILIENCE

As cyber and technological risks continue to increase, EMCS will continue working closely with Information Technology, Corporate Security, Communications and Law on cyber resilience and IT Disaster recovery. This will include exercises and education with all levels of the corporation.



MODERNIZING OUR SERVICE

We plan to release 3 new emergency preparedness videos focused on evacuation, shelterin-place, and winter storms. This will bring our total to 13 with plans for future additions. To support Calgary's diverse community, these videos are translated into 9 different languages, including American Sign Language. We are planning to modernize our website to make it more accessible and user-friendly. This will include the release of a new quarterly community newsletter that will highlight seasonal emergency preparedness tips and other information to increase community resilience.



SUPPORTING CLIMATE ADAPTION

EMCS will continue to support The City's Climate Resilience Strategy by collaborating with the Climate Team on shared priorities. We will continue to integrate climate adaptation principles and projected modelling into existing emergency management strategies and broader disaster risk reduction objectives.

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