HASTINGS
Centre Hastings
COUNTY

Community Risk Assessment for the Municipality of Centre Hastings

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Contents

1.0 Introduction:

A Risk assessment is a logical and systematic process of identifying, analyzing, and evaluating community risk. The assessment is a collection and analysis of data from several key community features that can support a municipality's decision to provide necessary fire protection services in accordance with its local needs and circumstances. The risk assessment can provide further insight into a municipality's needs and circumstances for fire protection services by:

- Identifying risk by assessing elements of a community such as its residents, buildings, unique geographic characteristics, economy, recreational aspects, threats, hazards, and community groups.
- Analyzing data to inform causes and sources of risk.
- Evaluating and prioritizing fire and life safety risk based on likelihood and consequence.

A community risk assessment provides:

- Evidence to inform decision making regarding the provision of fire protection service.
- A framework and baseline to monitor community risk

This document is being prepared for a variety of interest groups in addition to The Corporation of the Municipality of Centre Hastings and its residents.

2.0 Purpose:

The Fire Protection and Prevention Act, 1977 (FPPA) establishes responsibility for fire protection services. The FPPA states:

Responsibilities for Fire Protection Services Municipal Responsibilities:

2. (1) Every Municipality shall,

a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and

b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.

Fire Chief Responsibilities – Municipal

Responsibility to council:

6. (3) a fire chief is the person who is ultimately responsible to the council of a municipality that appointed him or her for the delivery of fire protection services.

The purpose of this report is to provide preliminary community risk assessment findings and risk treatment recommendations from the Fire Chief of the Municipality of Centre Hastings to inform decisions about the provision of fire protection services in the municipality.

A community risk assessment must be completed by a municipality every five years in compliance with O. Reg. 378/18 under the Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4 .

Municipal Responsibilities
Clause 2. (1)(a) FPPA

Compliance with Clause 2. (1)(a) FPPA requires that a municipality meet the OFM minimum acceptable model which is comprised of the following:

- Simplified Risk Assessment (SRA);
- Smoke alarm program, including home escape planning.
- Distribution of public education information and implementation of public education programs; and
- Fire prevention inspections upon complaint or request.

Municipalities have a legislated responsibility under the Fire Protection and Prevention Act, 1997 (FPPA) to provide public education with respect to fire safety and certain components of fire prevention. Conducting a simplified risk assessment is the first step towards compliance with these requirements and is intended to identify information required by a municipality to make informed decisions about the programs and activities necessary to effectively manage the community fire risk based upon local needs and circumstances.

In general terms, needs and circumstances relate to a municipality's economic situation, geography, population, building profiles and service delivery system, e.g., volunteer fire department.

In addition to a simplified risk assessment, as a minimum requirement, a community fire safety program must also include:

- A smoke alarm program and home escape planning.
- Distribution of fire safety education materials.
- Participation in inspections upon complaint or when requested to do so to assist with Fire Code compliance.

3.0 Goal:

It is the expectation that this comprehensive review of our fire risks will identify gaps in current program delivery and identify appropriate programs, activities, and changes within our fire department to meet and exceed the OFM’s minimum acceptable model.

4.0 Community Profile:

The Municipality of Centre Hastings is a municipality in Eastern Ontario, Canada, in Hastings County. It was formed on January 1, 1998, through the amalgamation of Huntingdon Township with the Village of Madoc.

Economy: The economy of Centre Hastings is diverse, with sectors such as agriculture, manufacturing, retail, and services playing integral roles. Agriculture remains a cornerstone of the local economy, with fertile lands supporting farming activities. Additionally, the community embraces entrepreneurship, with many small businesses thriving in sectors ranging from hospitality to creative industries.

Education: Centre Hastings prioritizes education, offering residents access to quality schooling from early childhood to secondary levels. The community is home to well-equipped schools that provide a nurturing environment for students to learn and grow. Educational institutions foster a culture of academic excellence and extracurricular involvement, preparing students for future success.

Recreation and Culture: Residents of Centre Hastings enjoy a plethora of recreational opportunities amidst the area's natural beauty. Parks, trails, and green spaces abound, offering ample opportunities for outdoor activities such as hiking, cycling, and picnicking. Cultural events, festivals, and community gatherings further enrich the social fabric, fostering a sense of belonging and camaraderie among residents.

Healthcare and Services: Access to healthcare and essential services is a priority in Centre Hastings. The community is served by healthcare facilities, including medical clinics and hospitals, ensuring residents receive quality care close to home. Additionally, various social services and support networks are available to meet the diverse needs of the community, promoting well-being and resilience.

Community Spirit and Engagement: Centre Hastings prides itself on its strong sense of community spirit and engagement. Residents actively participate in local initiatives, volunteer work, and civic organizations, demonstrating a commitment to making Centre Hastings a better place for all. The community values collaboration and cooperation, working together to address challenges and embrace opportunities for growth and development.

5.0 Geographic Profile:

Centre Hastings is a township located in the heart of Hastings County, Ontario, Canada. Situated in the southeastern part of the province, Centre Hastings encompasses a blend of rural landscapes, small towns, and natural beauty.

Location: Centre Hastings is centrally positioned within Hastings County, which is itself nestled in the eastern part of Southern Ontario. The township is bordered by Madoc Township to the north, Tweed Township to the east, and the municipality of Belleville to the south. To the west lies Stirling-Rawdon Township, and Marmora and Lake.

Physical Geography: The topography of Centre Hastings is characterized by rolling hills, interspersed with forests, farmlands, and water bodies. The region is part of the Eastern Great Lakes lowland forests ecoregion, featuring a mix of deciduous and coniferous forests.

Waterways: The Moira River flows through Centre Hastings, providing recreational opportunities. Numerous smaller streams and creeks also run through the area. Moira Lake is a significant body of water in the municipality. It is located southwest of the town of Madoc and is one of the larger lakes in the area.

Climate: Centre Hastings experiences a humid continental climate, typical of much of Southern Ontario. Summers are warm and humid, while winters are cold with moderate snowfall.

5.1 Geographic Concerns:

Wildland/urban interface

Centre Hastings has significant areas of coniferous and deciduous growth, as well as several farm fields growing hay.

Risk: Wildland fire incidents due to urban interface with local forests. Open air burning by residents, campers, and farmers.

Probability: Likely.

Wildland fires are a recurring, yearly issue. Wildland fires have averaged 4.9% of all calls over the past three years.

Consequences: Moderate

- Threat to life safety due to impingement on properties adjacent to a rural/urban interface.
- Potential loss of property use for agriculture or other farming operations.
- Economic loss if agriculture operations are disrupted.
- Environmental impact due to loss of vegetation.

Risk Treatment Options: Mitigate

- Institute the Firesmart program developed by the Ministry of Natural Resources (MNR). This program educates homeowners and builders on mitigating the threat of wildfire events and lowering its negative effects.
- Establish buffer zones between developed areas and wildland areas, where vegetation is managed to reduce fire fuel.
- Ensure proper training standard for wildland firefighting are met by municipal fire crews.
- Maintain and update current wildfire equipment and capabilities.

Watercourse

Moira Lake is a significant body of water in the municipality. Also present are smaller streams and lakes feeding into a larger river system.

Risk: Larger bodies of water present the risk of drowning incidents as well as ice water incidents.

Probability: Unlikely

Water rescue incidents are a rare occurrence in the municipality.

Consequences: Minor

- Minor threat to life safety due to the rarity of water related incidents.

Risk Treatment Options: Mitigate

- Initiate a water safety education to the public, emphasizing the dangers of the water and how to stay safe.
- Develop and regularly update emergency response plans for water-related incidents.
- Conduct regular training to practice emergency response procedures.
- Maintain and update current water rescue equipment.

Climate Change

Global climate change could impact temperature and precipitation.

Risk: Climate change can influence the frequency of extreme climatic events and require large-scale emergency preparedness.

Probability: Possible

The exact likelihood of climate change in the future involves uncertainties due to various factors, including human actions, natural processes, and feedback mechanisms within the Earth's climate system.

Consequences: Moderate

- Increased frequency and intensity of heatwaves, hurricanes, floods, droughts, and wildfires can lead to direct loss of life.
- Rising temperatures contribute to heat-related illnesses, exacerbate respiratory problems due to poor air quality, and spread vector-borne diseases.
- Extreme weather events, including storms, floods, and wildfires, can cause significant damage to homes, infrastructure, and businesses.
- Extreme weather events and natural disasters can disrupt supply chains, leading to production delays, increased costs, and economic losses.
- Impacts on agriculture, tourism, and other sectors dependent on natural resources can lead to loss of livelihoods and economic instability.

Risk Treatment Options: Accept

- Provide training and education to firefighters and emergency responders on the connection between climate change and wildfire risk, as well as strategies for adapting to changing conditions.

- Develop adaptation plans that incorporate climate change considerations into wildfire management strategies, as well as other natural disasters, while identifying vulnerabilities in current firefighting capabilities and infrastructure, such as equipment, training, and communication systems, and develop strategies to address them.

6.0 Building Stock Profile:

Centre Hastings encompasses a mix of rural and semi-rural areas, including small villages and hamlets. A generalized profile of the building stock found in Centre Hastings as follows:

Residential Homes: The predominant building type in Centre Hastings is residential homes. These include single-family detached houses, farmhouses, cottages, and rural buildings. The architectural styles may vary, ranging from traditional to more contemporary designs.

Farms and Agricultural Structures: Agriculture plays a significant role in Centre Hastings, there are several farmsteads with associated agricultural buildings such as barns, silos, and equipment sheds, and other essential construction for supporting the local farming community.

Commercial Buildings: Centre Hastings has small commercial areas within its urban area. Commercial buildings include shops, restaurants, cafes, convenience stores, and service businesses. These buildings vary between standalone structures or located within mixed-use developments.

Public Buildings: Public buildings serve the needs of the local community and may include a municipal office, libraries, community centers, fire stations, and schools. These buildings provide essential services and amenities to residents.

Places of Worship: Centre Hastings has several churches or other places of worship serving various religious denominations within its community.

Heritage Buildings: Like many rural areas in Ontario, Centre Hastings has several heritage buildings with historical significance. These include old homes, former commercial buildings, schools, or other structures that have been preserved for their architectural or cultural value or converted for residential use.

Recreational Facilities: Recreational facilities such as parks, sports fields, community halls, and arenas are present in Centre Hastings to provide opportunities for leisure and organized activities.

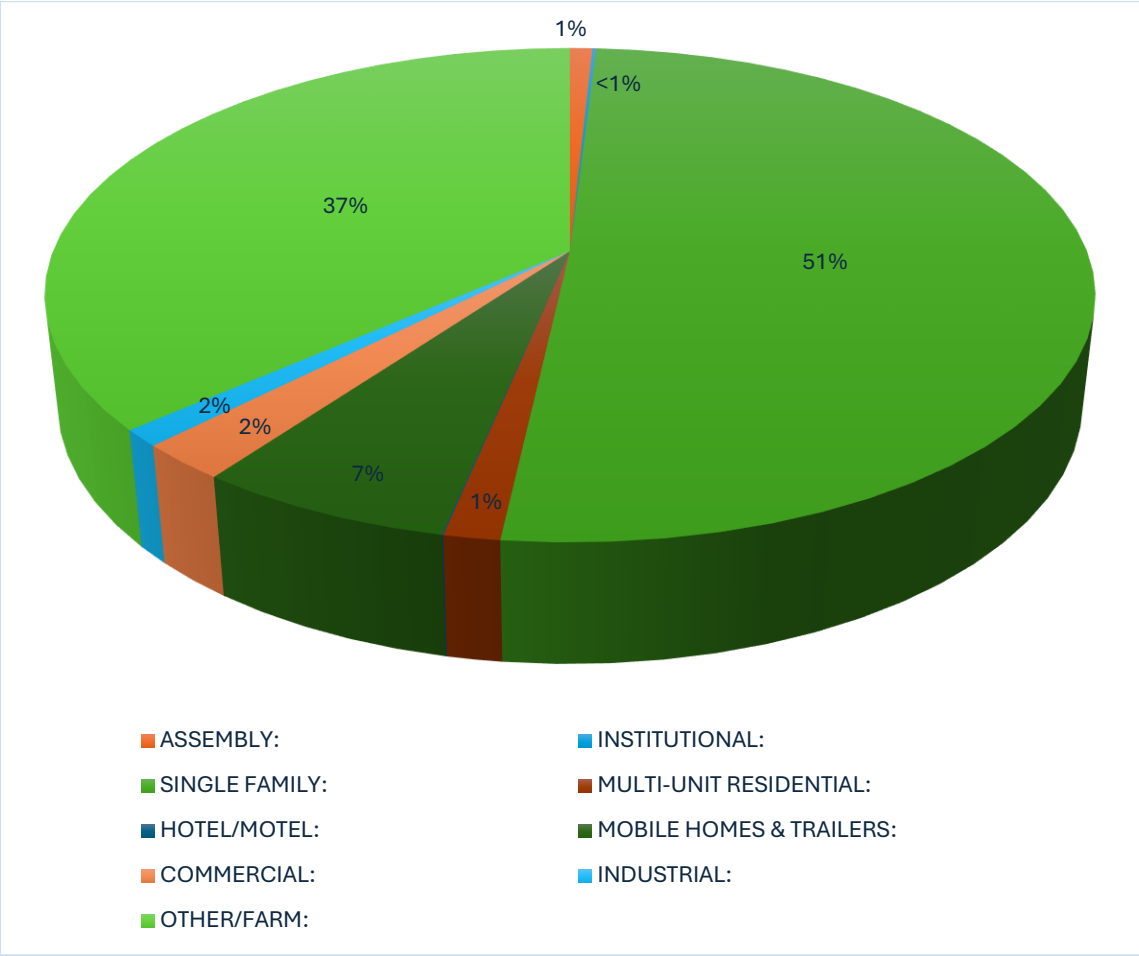
Waterfront Properties: With the presence of lakes and rivers in the area, Centre Hastings has waterfront properties, including cottages, waterfront homes, and recreational facilities catering to water-based activities.

Overall, Centre Hastings' building stock is a mix of residential, agricultural, commercial, and public buildings catering to the needs of its residents and visitors.

6.1 Occupancies

GROUP	TYPE	NUMBER OF UNITS
GROUP A	ASSEMBLY:	24
GROUP B	INSTITUTIONAL:	4
GROUP C	SINGLE FAMILY:	1482
	MULTI-UNIT RESIDENTIAL:	43
	HOTEL/MOTEL:	1
	MOBILE HOMES & TRAILERS:	197
GROUPS D&E	COMMERCIAL:	70
	INDUSTRIAL:	32
	OTHER/FARM:	1064
	TOTALS:	**2917**

6.2 Occupancies



6.3 Building Stock Profile Concerns:

6.3.A - Fire Hazards

Centre Hastings has a significant number of residential homes, farms, commercial buildings, and public buildings.

Risk: Old heritage buildings may have outdated electrical systems or lack modern fire suppression equipment, increasing the risk of fire incidents. Additionally, agricultural structures such as barns and silos are prone to fire due to the storage of combustible materials like hay and grains.

Probability: Likely

Structure fires accounted for 4.3% percent of calls in 2023.

Consequences: Moderate

- Agricultural Losses: Fires in barns and silos can result in the loss of valuable livestock, crops, and equipment, leading to significant financial losses for farmers.
- Insurance Claims: Increased fire incidents can lead to higher insurance premiums and substantial payouts.
- Human Casualties: Fires pose a direct risk to human life, including occupants, firefighters, and first responders.
- Wildfire Risk: In rural areas, fires in agricultural buildings can spread to nearby fields and forests, increasing the risk of larger wildfires.
- Loss of Services: The destruction of community services housed in heritage buildings, such as museums, libraries, or cultural centers, can disrupt community activities and services.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Upgrading Electrical Systems:

Inspection and Assessment

- Conduct thorough inspections of electrical systems in heritage buildings and agricultural structures to identify potential hazards.

Modernization

- Upgrade outdated wiring, circuit breakers, and other electrical components to meet current safety standards.

Professional Services

- Ensure all electrical work is performed by licensed electricians with experience in heritage and agricultural buildings.

Installation of Fire Suppression Systems:

Sprinkler Systems

- Install automatic sprinkler systems in both heritage buildings and agricultural structures. Modern sprinkler systems can be discreetly integrated into heritage buildings to preserve their aesthetic value.

Fire Extinguishers

- Place fire extinguishers strategically throughout buildings and ensure they are easily accessible. Regularly maintain and inspect extinguishers.

Smoke Detectors

- Install smoke detectors and fire alarms, ensuring they are interconnected for comprehensive coverage and early warning.

Fire Safety Education and Training:

Training Programs

- Conduct regular fire safety training for building occupants, farmers, and workers. Include fire extinguisher use, evacuation procedures, and emergency response actions.

Fire Drills

- Organize routine fire drills to ensure everyone knows how to respond in case of a fire.

Storage Practices for Combustible Materials:

Proper Ventilation

- Ensure barns and silos are well-ventilated to reduce the risk of spontaneous combustion in stored hay and grains.

Safe Storage

- Implement safe storage practices, such as keeping combustible materials away from potential ignition sources and using fire-resistant materials for storage areas.

Regular Inspections

- Conduct regular inspections of storage areas to identify and address any potential fire hazards.

Enhanced Fire Protection for Heritage Buildings:

Fire-Rated Materials

- Use fire-rated materials for renovations and repairs to heritage buildings to improve their fire resistance.

Preservation Guidelines

- Follow heritage preservation guidelines that incorporate fire safety measures without compromising the historical integrity of the buildings.

Community Involvement and Support:

Fire Department

- Work closely with the fire department to develop tailored fire prevention and response plans for heritage and agricultural buildings.

Grant Programs

- Explore government grants and funding opportunities for upgrading fire safety systems in heritage buildings and agricultural structures.

Regular Maintenance and Monitoring:

Routine Checks

- Establish a schedule for regular maintenance and safety checks of electrical systems, fire suppression equipment, and storage facilities.

Monitoring Technology

- Utilize modern monitoring technology, such as thermal imaging cameras and remote sensors, to detect early signs of fire or electrical faults.

6.3.B Natural Hazards

Centre Hastings has a large rural area with waterfront properties.

Risk: Centre Hastings is susceptible to natural disasters such as floods, especially during heavy rainfall or snowmelt seasons. Waterfront properties are particularly vulnerable to flooding, while farms and agricultural structures may suffer damage from floods or severe storms.

Probability: Likely

Changing weather patterns could have a significant impact.

Consequences: Moderate

- Residential and Commercial Properties: Floods can cause significant damage to homes and businesses, leading to costly repairs or complete rebuilding.
- Agricultural Infrastructure: Farms and agricultural structures like barns, silos, and equipment can be severely damaged, disrupting farming operations and causing financial losses.
- Human Casualties: Natural disasters pose a direct threat to human life, with risks of drowning, injury, or health complications from exposure to contaminated water.

Risk Treatment Options: Mitigate

The susceptibility of Centre Hastings to natural disasters, particularly floods, poses significant risks to waterfront properties, farms, and agricultural structures. With changing weather patterns likely to exacerbate these hazards, it's crucial to implement effective risk treatment options to mitigate the potential impact. The following actions can be taken to mitigate this risk:

Flood Preparedness and Response Plans

- Develop comprehensive flood preparedness and response plans tailored to the specific needs of Centre Hastings.
- Establish clear evacuation routes, emergency shelters, and communication protocols to ensure swift and organized responses during flood events.

Flood Risk Mapping and Assessment

- Conduct detailed flood risk mapping and assessments to identify high-risk areas, vulnerable infrastructure, and properties susceptible to flooding.

- Utilize Geographic Information System (GIS) technology to visualize flood hazards and prioritize mitigation efforts accordingly.

Flood Control Infrastructure

- Invest in flood control infrastructure such as levees, floodwalls, and stormwater drainage systems to mitigate the impact of floods.

- Implement green infrastructure solutions like rain gardens and permeable pavements to absorb and manage stormwater runoff effectively.

Property Protection Measures

- Implement property-level flood protection measures such as elevating structures, installing flood barriers or flood-proofing building foundations.

- Promote the use of flood-resistant materials and construction techniques in new developments and building renovations.

Early Warning Systems

- Establish robust early warning systems to provide timely alerts and notifications to residents and businesses in flood-prone areas.

- Utilize meteorological data, river gauges, and real-time monitoring technology to detect and forecast flood events accurately.

Community Education and Outreach

- Conduct public awareness campaigns to educate residents, property owners, and farmers about flood risks, preparedness measures, and emergency procedures.
- Provide training on flood safety, evacuation protocols, and the proper use of sandbags and other flood mitigation tools.

Land Use Planning and Regulation

- Enact and enforce land use planning regulations that restrict development in floodplains and prioritize the protection of natural flood buffers like wetlands and riparian zones.

- Incorporate flood resilience considerations into zoning ordinances, building codes, and subdivision regulations to minimize flood risk in new developments.

Collaboration and Partnerships

- Foster collaboration among government agencies, community organizations, emergency responders, and other stakeholders to coordinate flood mitigation efforts effectively.

- Establish partnerships with neighboring jurisdictions, watershed management authorities, and regional agencies to address shared flood risk challenges.

6.3.C Structural Hazards

Centre Hastings has many older and heritage buildings.

Risk: Older buildings may have deteriorated structural integrity due to aging or lack of maintenance. This poses risks to occupants, particularly in the event of extreme weather events such as high winds or heavy snow loads.

Risk: Compromised structural integrity may pose a hazard to emergency responders during incidents.

Probability: Rare

No incidents have occurred within the past 15 years.

Consequences: Minor

- Collapse Risk: Aging buildings with weakened structures are at a higher risk of partial or complete collapse, posing a serious threat to the safety of occupants and passersby.

- Injury and Fatalities: Structural failures can lead to significant injuries or fatalities among residents, workers, and visitors.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Structural Assessments and Maintenance

- Conduct regular structural assessments by qualified engineers to identify signs of deterioration, weaknesses, or structural deficiencies in older buildings.

- Implement a preventive maintenance program to address identified issues promptly and ensure the structural integrity of buildings is maintained.

Renovation and Retrofitting

- Prioritize renovation and retrofitting projects to strengthen the structural integrity of older buildings, especially in areas prone to extreme weather events.

- Invest in upgrades such as seismic retrofitting, reinforcement of load-bearing elements, and installation of wind-resistant features to enhance resilience.

Emergency Response Planning

- Develop emergency response plans that consider the potential hazards posed by compromised structural integrity in older buildings.

- Provide specialized training for emergency responders on recognizing and mitigating risks associated with unstable structures during incidents.

Occupant Safety Measures

- Implement occupant safety measures such as posting evacuation routes, conducting regular fire drills, and installing emergency lighting and exit signs.

- Educate occupants on how to identify signs of structural instability and respond appropriately during emergencies.

Building Codes and Regulations:

- Enforce building codes and regulations that require periodic inspections, maintenance, and upgrades to ensure the structural integrity of older buildings.

- Advocate for the adoption of retrofitting requirements in building codes to improve the resilience of existing structures to extreme weather events.

Community Engagement and Support:

- Raise awareness among building owners, landlords, and tenants about the importance of maintaining structural integrity and complying with safety regulations.
- Aid and incentives for property owners to undertake necessary renovations and upgrades to improve building safety.

Risk Communication and Coordination:

- Establish effective communication channels between building owners, emergency responders, and local authorities to share information and coordinate responses to incidents involving compromised structures.

- Communicate risk assessments and mitigation measures transparently to the community to foster trust and cooperation in building safety efforts.

Public-Private Partnerships:

- Foster partnerships between public agencies, private sector stakeholders, and community organizations to pool resources and expertise for addressing structural integrity risks in older buildings.

- Collaborate with heritage preservation groups to balance the need for structural improvements with the preservation of historical and architectural significance.

6.3.D Transportation Hazards

Centre Hastings has a mix of residential, commercial, and agricultural properties, with a range of main highways, paved roads and maintained side roads accessing these assets.

Risk: Accidents involving vehicles carrying hazardous materials through the main highways could pose a threat to the community.

Probability: Rare

No incidents in the last 15 years

Consequences: Moderate

- Human Casualties: Accidents involving hazardous materials can lead to injuries or fatalities among vehicle occupants, emergency responders, and nearby residents.

- Exposure to Toxic Substances: Spills or leaks of hazardous materials can expose the local population to toxic substances, leading to acute health issues such as respiratory problems, chemical burns, or poisoning.

- Long-term Health Effects: Prolonged exposure to certain hazardous substances can cause chronic health conditions, including cancer and neurological disorders.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Emergency Response Planning

- Develop and regularly update emergency response plans specifically tailored to address accidents involving hazardous materials on main highways.

- Conduct joint training exercises and drills involving local emergency responders, law enforcement agencies, and hazardous materials response teams to ensure preparedness.

Hazardous Materials Transport Regulations

- Enforce strict regulations and compliance standards for the transportation of hazardous materials through main highways, including vehicle inspections, driver qualifications, and cargo handling procedures.

- Collaborate with regulatory agencies at the local, provincial, and federal levels to monitor and enforce transportation safety regulations effectively.

Route Planning and Risk Assessment:

- Conduct route planning and risk assessments for vehicles transporting hazardous materials through Centre Hastings, identifying alternative routes and bypasses where possible.

- Utilize Geographic Information System (GIS) technology to map out potential hazards, vulnerable areas, and emergency response resources along transportation routes.

6.3.E Motor Vehicle Incidents

Centre Hastings is at risk of motor vehicle incidents.

Risk: Increased traffic volume on major highways during the summer months potentially increases the likelihood of motor vehicle accidents.

Probability: Likely

Multiple motor vehicle incidents occur per year.

Consequences: Moderate

- Injuries and Fatalities: Higher traffic volumes often lead to more accidents, resulting in increased injuries and fatalities among drivers, passengers, and pedestrians.
- Strain on Emergency Services: An uptick in accidents places additional pressure on local emergency services, including medical, fire, and police departments, potentially delaying response times for other emergencies.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Traffic Management and Enforcement:

- Enhance traffic management measures, including speed limit enforcement, traffic calming techniques, and intersection improvements, to mitigate the risks associated with increased traffic volume.

- Deploy additional law enforcement personnel and resources during peak traffic periods to deter reckless driving behaviors and enforce traffic regulations effectively.

Public Awareness Campaigns:

- Launch public awareness campaigns to educate drivers about the risks associated with increased traffic volume and the importance of safe driving practices.

- Use various communication channels, such as social media, electronic message boards, and local newspapers, to disseminate safety messages and promote responsible driving behavior.

Road Infrastructure Upgrades:

- Invest in road infrastructure upgrades, including widening lanes, adding shoulders, and improving signage and visibility, to accommodate the increased traffic volume and enhance road safety.

- Implement road maintenance programs to address potholes, uneven pavement, and other hazards that may contribute to motor vehicle accidents.

Alternative Transportation Options:

- Promote alternative transportation options, such as public transit, ridesharing, and cycling, to reduce reliance on personal vehicles and alleviate congestion on major highways.

- Develop and improve multi-modal transportation networks to provide residents with convenient and sustainable travel alternatives.

Driver Education and Training:

- Offer driver education and training programs focused on defensive driving techniques, hazard awareness, and risk mitigation strategies for navigating high-traffic conditions.

- Provide incentives for drivers to participate in defensive driving courses and other safety training initiatives to enhance their skills and knowledge**.**

Real-Time Traffic Monitoring and Information:

- Implement real-time traffic monitoring systems and provide accurate, up-to-date information to motorists about traffic conditions, congestion, and alternative routes.

- Develop mobile applications and online platforms that enable drivers to access live traffic updates, route recommendations, and safety advisories while on the road.

Collaboration with Stakeholders:

- Collaborate with transportation agencies, local municipalities, businesses, and community organizations to coordinate efforts and implement comprehensive strategies for managing increased traffic volume.

- Establish partnerships with commercial trucking companies, tour operators, and other stakeholders to develop transportation management plans and minimize the impact of large vehicle fleets on highway safety.

Continuous Evaluation and Improvement:

- Monitor traffic patterns, accident data, and feedback from stakeholders to assess the effectiveness of risk treatment measures and identify opportunities for improvement.

- Conduct regular safety audits and performance evaluations of highway infrastructure and traffic management systems to identify potential hazards and address them proactively.

6.3.F Private Roads

Centre Hastings has several private roads that are not maintained to adequate standards.

Risk: Poorly maintained private roads restrict access to emergency vehicles.

Probability: Possible

Many private laneways populate the municipality particularly near waterfront properties, seeing increased traffic during summer months.

Consequences: Minor

- Delayed Emergency Response: Poorly maintained roads can slow down or block access for emergency vehicles, leading to delays in providing critical services such as medical assistance, firefighting, and law enforcement.

- Increased Mortality and Morbidity: Delays in emergency response times can result in increased mortality and morbidity rates during medical emergencies, fires, or accidents.

- Risk to Emergency Personnel: Navigating poorly maintained roads can pose additional risks to emergency personnel, potentially leading to accidents or injuries.

- Fire Damage: Restricted access for fire trucks can lead to uncontrolled fires, resulting in significant property damage or total loss of homes and structures.

- Prolonged Emergencies: Difficulty accessing the site of emergencies can lead to prolonged incidents, causing more extensive damage to property and the environment.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Regulatory Measures:

- **Private Road Maintenance Standards:** Enforce maintenance standards for private roads to ensure they are accessible to emergency vehicles. These standards should include minimum width, clearance, and surface quality requirements.

- **Maintenance Agreements:** Require property owners, particularly those with private laneways, to enter into maintenance agreements that stipulate regular upkeep and compliance with safety standards.

Community Education and Engagement:

- **Awareness Campaigns:** Launch educational campaigns to inform property owners about the importance of maintaining private roads for emergency access and the specific standards required.

- **Workshops and Resources:** Provide workshops and resources to assist property owners in understanding maintenance practices and available services for road upkeep.

Incentives and Assistance Programs:

- **Financial Incentives**: Offer financial incentives, such as grants or low-interest loans, to property owners for the maintenance and improvement of private roads.

- **Technical Assistance**: Provide technical assistance and guidance to property owners on best practices for maintaining private roads, including drainage management and surface repair techniques.

Infrastructure Improvements:

- **Road Upgrades:** Facilitate road upgrades where necessary, prioritizing high-risk areas with frequent access issues. Consider paving or grading improvements to enhance durability and accessibility.

- **Access Points:** Ensure that private roads have clearly marked access points and are free from obstructions that could hinder emergency vehicle entry.

Emergency Preparedness Planning:

- **Emergency Access Maps**: Create and distribute detailed maps to emergency services that highlight all private roads and potential access issues. Include alternative routes and critical infrastructure locations.

- **Regular Drills**: Conduct regular emergency response drills that involve accessing properties via private roads to identify and address any logistical challenges.

Collaboration and Partnerships:

- **Local Partnerships:** Partner with local homeowner associations, property management companies, and community groups to coordinate maintenance efforts and share the responsibility for road upkeep.

- **Public-Private Collaboration**: Foster collaboration between municipal authorities and private road owners to align maintenance practices with public safety requirements.

Monitoring and Enforcement:

- **Regular Inspections**: Implement a system for regular inspections of private roads to ensure ongoing compliance with maintenance standards and identify any emerging issues.
- **Enforcement Mechanisms:** Establish enforcement mechanisms, such as fines or penalties, for non-compliance with private road maintenance requirements.

Policy Development:

- **Comprehensive Policies:** Develop comprehensive policies that address the maintenance of private roads, including guidelines for regular inspections, maintenance schedules, and emergency access provisions.

- **Long-Term Planning:** Incorporate private road maintenance into broader municipal planning and infrastructure development initiatives to ensure sustainable solutions.

6.3.F Community Hazards

Centre Hastings has a distribution of public buildings such as schools, community centers, and fire stations.

Risk: Community resilience may be impacted in emergencies. Ensuring equitable access to emergency services and resources across the region is crucial for effective disaster response and recovery.

Probability: Unlikely

Centre Hastings has robust emergency services with local fire, EMS, and police resources. These services could be strained, however, in the event of a major emergency.

Consequences: Minor

- Delayed Response Times: In the event of a major emergency, emergency services may be overwhelmed, leading to delayed response times for critical incidents such as fires, medical emergencies, and law enforcement needs.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Enhancing Emergency Preparedness:

- **Develop Comprehensive Emergency Response Plans:** Ensure that all public buildings, such as schools, community centers, and fire stations, have detailed emergency response plans. These plans should include clear roles and responsibilities, communication protocols, and coordination mechanisms.

- **Regular Training and Drills:** Conduct regular emergency training and simulation drills for all public building staff, emergency responders, and community

members. These exercises should cover various scenarios, including natural disasters, accidents, and large-scale emergencies.

Improving Infrastructure Resilience:

- **Upgrade Public Building Resilience**: Retrofit public buildings to withstand extreme weather events, such as reinforcing structures, upgrading electrical systems, and installing backup generators.

- **Create Multi-Purpose Facilities**: Designate certain public buildings as emergency shelters and resource distribution centers. Ensure these facilities are equipped with essential supplies and can operate independently during emergencies.

Strengthening Communication and Coordination:

- **Establish Robust Communication Networks:** Develop redundant communication systems to ensure continuous information flow during emergencies. Utilize modern technology, such as satellite phones and radio systems, to maintain connectivity.

- **Centralized Command and Control:** Create a centralized emergency operations center (EOC) to coordinate response efforts, allocate resources, and manage information during emergencies.

Ensuring Equitable Access to Services:

- **Assess and Address Gaps in Service Coverage:** Conduct a thorough assessment to identify areas with limited access to emergency services. Implement measures such as mobile emergency response units or temporary service hubs to address these gaps.
- **Strategic Resource Allocation:** Prioritize resource allocation to underserved areas, ensuring that all communities have access to critical emergency services and supplies.

Fostering Community Engagement and Education:

- **Public Awareness Campaigns**: Launch campaigns to educate residents about emergency preparedness, including creating personal emergency plans, assembling emergency kits, and understanding evacuation routes.

- **Community-Based Programs:** Develop community-based programs that empower local residents to take an active role in emergency preparedness and response. This could include forming neighborhood watch groups or volunteer response teams.

Enhancing Collaboration and Mutual Aid:

- **Mutual Aid Agreements:** Maintain mutual aid agreements with neighboring municipalities and regions to share resources, personnel, and expertise during large-scale emergencies.

- **Interagency Coordination:** Foster collaboration between local fire, EMS, police, and other relevant agencies to ensure a unified and efficient response to emergencies.

Utilizing Technology and Data:

- **Early Warning Systems:** Implement early warning systems to provide timely alerts for natural disasters, severe weather, and other hazards. Use data analytics to predict and monitor potential risks.

- **GIS Mapping and Resource Management:** Use Geographic Information System (GIS) technology to map critical infrastructure, emergency routes, and resource locations. This can aid in efficient planning and response during emergencies.

Regular Review and Improvement:

- **Continuous Improvement Processes**: Regularly review and update emergency plans, procedures, and resources based on lessons learned from drills, exercises, and real incidents.

- **Community Feedback Mechanisms:** Establish mechanisms for collecting feedback from residents and stakeholders to identify areas for improvement and ensure community needs are met.

6.3.G Economic Hazards

Centre Hastings has a significant agricultural presence in the southern region as well as a large commercial occupancy in the Madoc core area.

Risk: Disruptions to agricultural activities due to extreme weather events, such as storms or flooding and disruption to commercial activities due to fire incidents.

Probability: Unlikely

No significant events in the past.

Consequences: Minor

- Extreme weather events can destroy crops, leading to significant financial losses for farmers. This can affect both immediate income and future planting seasons.

Risk Treatment Options: - Mitigate

The following actions can be taken to mitigate this risk:

Infrastructure and Land Management Improvements:

- **Drainage Systems**: Improve and maintain drainage systems to prevent flooding and waterlogging of agricultural fields. This can include the installation of proper irrigation channels and water diversion structures.

- **Windbreaks and Shelterbelts:** Plant trees or shrubs as windbreaks and shelterbelts to reduce wind speed and protect crops from damage during storms.

Adopting Climate-Resilient Agricultural Practices:

- **Crop Diversification:** Encourage farmers to diversify their crops to reduce the risk of total loss in the event of extreme weather. This includes planting a mix of drought-resistant, flood-tolerant, and quick-maturing crop varieties.

- **Soil Management:** Promote soil conservation practices such as cover cropping, no-till farming, and organic amendments to improve soil health and resilience against erosion and extreme weather.

7.0 Critical Infrastructure Profile:

7.1 Transportation Infrastructure:

7.1.A Road Network:

Centre Hastings is served by a network of roads and highways, including Provincial Highway 7 and 62, which connects the municipality to larger urban centers like Belleville and Bancroft.

Risk: Damage to roads and bridges, due to natural disasters or accidents can disrupt transportation networks and hinder emergency response and access to critical services.

Probability: Possible **-** No historically significant events

Consequences: Minor

- Supply Chain Interruptions: Disruptions in transportation networks can delay the delivery of goods and services, impacting local businesses and industries,

particularly the agricultural sector reliant on timely transport of produce and livestock.

- Delayed Emergency Services: Damage to critical infrastructure can delay emergency response times for fire, medical, and police services.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

- Continue to maintain a rigorous schedule for inspecting and maintaining roads, bridges, and culverts to identify structural weaknesses, erosion, or other issues before they escalate.

- Maintain investment in resilient infrastructure by upgrading vulnerable roads and bridges to withstand anticipated hazards, such as flooding, high winds, or seismic events, by using resilient materials and construction techniques.

7.1.B Bridges and Culverts

Numerous bridges and culverts facilitate transportation across water bodies and rugged terrain, supporting both local traffic and commercial transportation.

Risk: The presence of water bodies, bridges, and culverts makes Centre Hastings susceptible to flooding, especially during heavy rainfall or snowmelt events.

Probability: Possible - No historically significant events

Consequences: Minor

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

- Maintain and enforce floodplain management regulations and zoning ordinances to limit development in flood-prone areas and preserve natural floodplains.

- Require setbacks and elevation requirements for new construction to minimize flood damage and ensure the safety of residents and properties.

7.2 Utilities

7.2A Water Supply

The municipality operates water treatment plants and distribution systems to provide clean and reliable drinking water to residents and businesses.

Risk: Biological Contamination from inadequate treatment or cross-contamination from sewage systems can introduce harmful pathogens, bacteria, or viruses into the drinking water, leading to waterborne diseases.

Probability: Possible: No historically significant events

Consequences: Major

- Waterborne Diseases: Contaminated drinking water can lead to outbreaks of waterborne diseases. These diseases can cause severe illness and potentially death, particularly among vulnerable populations like the elderly, children, and immunocompromised individuals.

- Chronic Health Issues: Long-term exposure to contaminated water can lead to chronic health problems, including kidney damage and long-term gastrointestinal disorders.

- Healthcare System Strain: An outbreak of waterborne diseases can overwhelm local healthcare facilities, leading to shortages of medical supplies and personnel, and delaying treatment for other medical conditions.

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

- Ensure that water treatment plants employ multiple barriers, such as filtration, disinfection (e.g., chlorination, UV treatment), and chemical treatment, to effectively remove or inactivate pathogens, bacteria, and viruses from the water. Regularly monitor and optimize treatment processes to maintain consistent water quality standards and address emerging contaminants or variations in source water quality.

7.2.B Pipe Leaks and Breaks

Risk: Aging or deteriorating water distribution pipelines are susceptible to leaks, breaks, and corrosion, leading to water loss, pressure fluctuations, and potential contamination from external sources. Malfunctions or failures of water pumps, valves, and other mechanical equipment can disrupt water flow, pressure regulation, and treatment processes, also affecting water supply reliability during firefighting operations.

Probability: Likely - Pipe leaks or water main breaks are a common occurrence.

Consequences: Minor

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Routine Inspections:

- Conduct regular inspections using advanced techniques like acoustic monitoring, infrared thermography, and pressure testing to identify early signs of leaks and weaknesses in pipelines.

- Implement a scheduled maintenance program to check and service mechanical equipment such as pumps, valves, and meters.

Corrosion Protection:

- Apply protective coatings and linings to pipelines to prevent corrosion.

- Utilize cathodic protection systems to reduce the rate of corrosion in metal pipes.

Leak Detection Systems:

- Install advanced leak detection systems that use sensors and real-time monitoring to detect and locate leaks quickly.
- Employ SCADA (Supervisory Control and Data Acquisition) systems for real-time data collection and analysis to monitor pipeline integrity and mechanical equipment performance.

Infrastructure Upgrades/Pipeline Replacement

- Replace aging and deteriorated pipelines with modern materials that are more resistant to leaks and corrosion, such as PVC, HDPE, or ductile iron.

- Prioritize replacement based on risk assessments and the criticality of the pipelines to the overall water distribution network.

7.2.C Electricity Grid

The electricity grid, managed by local utility companies and Ontario Hydro, supplies power to residential, commercial, and industrial consumers.

Risk: A widespread long-term power outage presents significant risks across various sectors, impacting residential, commercial, and industrial consumers.

Probability: Likely - Power outages are a common occurrence.

Consequences: Minor

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

- Investing in Resilient Infrastructure: Modernize and reinforce the electricity grid to withstand extreme weather events and other disruptions.
- Backup Power Systems: Ensure critical facilities such as hospitals, emergency services, and water treatment plants have reliable backup power sources.
- Public Awareness and Preparedness: Educate the public on emergency preparedness and provide clear guidelines on how to respond during a prolonged power outage.
- Diversified Energy Sources: Develop and integrate renewable energy sources and decentralized power systems to reduce dependency on a centralized grid.
- Coordination and Planning: Foster coordination between government agencies, utility companies, and communities to develop comprehensive emergency response plans.

7.2.D Natural Gas

Enbridge Gas supplies, manages and delivers natural gas for heating and industrial purposes, contributing to energy security and economic development.

Risk One: Explosions and Fires
Natural gas leaks can lead to explosions and fires, posing significant threats to life and property. Even a small leak in a confined space can lead to a catastrophic event if ignited.

Probability: Possible - Few incidents in the past 5 years.

Consequences: Major

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Emergency Response Plans:

- Develop Comprehensive Plans: Create detailed emergency response plans that outline the steps to be taken in the event of a gas leak or fire, including evacuation procedures and communication strategies.

- Coordination with Emergency Services: Work closely with local fire departments, emergency medical services, and other relevant agencies to ensure coordinated and efficient responses.

Public Education Campaigns:

- Recognizing Gas Leaks: Educate the public on the signs of a gas leak, such as the smell of rotten eggs (mercaptan added to natural gas), hissing sounds, and dead vegetation around pipeline areas.

- Immediate Actions: Teach residents what to do if they suspect a gas leak, including evacuating the area, avoiding the use of electrical devices or open flames, and calling emergency services immediately.

Risk Two: Carbon Monoxide Poisoning
Incomplete combustion of natural gas in appliances can produce carbon monoxide (CO), a colorless, odorless gas that is highly toxic and can cause serious health issues or death if inhaled.

Probability: Likely - Carbon monoxide calls while infrequent, account for between 2 and 4% of yearly call volume.

Consequences: Moderate

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Professional Installation:

- Certified Technicians: Ensure that all gas appliances are installed by certified professionals who follow manufacturer guidelines and safety standards.

- Ventilation Systems: Properly install and regularly inspect ventilation systems to ensure that exhaust gases are safely vented outside the building.

Regular Maintenance:

- Routine Inspections: Schedule regular inspections of gas appliances, chimneys, flues, and vents to detect and address any issues that could lead to incomplete combustion.

- Cleaning and Servicing: Regularly clean and service appliances to remove any build-up of soot or debris that could impede proper combustion.

Carbon Monoxide Detectors:

- Install CO Detectors: Place carbon monoxide detectors near sleeping areas and on each level of the home, as well as near gas appliances.

- Regular Testing: Test CO detectors monthly and replace the batteries at least once a year. Replace the detectors according to the manufacturer's recommendations, typically every 5-7 years.

Integrated Alarm Systems:

- Combination Detectors: Use combination smoke and CO detectors to provide comprehensive protection and simplify maintenance.
- Smart Detectors: Consider smart CO detectors that can send alerts to smartphones, providing additional safety even when occupants are away from home.

Education Campaigns:

- Recognizing Symptoms: Educate the public about the symptoms of CO poisoning, such as headaches, dizziness, nausea, and confusion, and the importance of immediate action if CO poisoning is suspected.

- Appliance Use: Teach residents how to use gas appliances safely and the importance of not using ovens or stovetops for heating.

Safety Guidelines:

- Ventilation: Inform the public about the importance of keeping vents and chimneys clear of obstructions and ensuring proper ventilation when using gas appliances.

- Regular Checks: Encourage regular checks of CO detectors and prompt replacement of faulty units.

Compliance with Regulations:

- Building Codes: Ensure compliance with local building codes and safety regulations regarding the installation and maintenance of gas appliances and ventilation systems.

- Standards and Certifications: Use appliances and CO detectors that meet recognized safety standards and certifications, such as those from Underwriters Laboratories (UL) or the Canadian Standards Association (CSA).

Manufacturer Guidelines:

- Proper Use: Follow manufacturer guidelines for the operation and maintenance of gas appliances.
- Authorized Service: Use authorized service centers for repairs and maintenance to ensure that work is performed to the manufacturer's standards.

Emergency Response Plans:

- Evacuation Procedures: Develop and practice evacuation procedures for homes and buildings in case of CO alarm activation.
- First Aid: Provide information on first aid measures for CO poisoning, including moving affected individuals to fresh air and seeking immediate medical attention.

Community Resources:

- Support Services: Ensure access to community resources such as emergency services and professional inspection services.
- Public Announcements: Use public service announcements and community meetings to regularly update residents on CO safety and prevention measures.

7.3 Communication Infrastructure:

7.3.A Telecommunications

Centre Hastings is connected to telecommunications networks, including landline, mobile, and internet services, enabling communication and information exchange.

Risk: Losing telecommunications services, including landline, mobile, and internet, can have profound and wide-ranging impacts on a community like Centre Hastings.

Probability: Possible - No historically significant events

Consequences: Minor

Risk Treatment Options: - Mitigate

The following actions can be taken to mitigate this risk:

Infrastructure Resilience:

- Backup Systems: Implement backup systems, such as satellite phones and radios, to ensure emergency services and critical operations can continue during outages.

- Redundant Networks: Develop and maintain redundant communication networks to provide alternative pathways for data transmission.

Emergency Preparedness:

- Emergency Plans: Develop and regularly update emergency communication plans that include protocols for communication failures.

- Drills and Training: Conduct regular drills and training for residents and emergency responders on alternative communication methods during outages.

Public Awareness and Education:

- Community Programs: Educate the community on emergency preparedness, including how to use alternative communication methods.

- Information Distribution: Distribute printed materials with emergency contact information and procedures for reporting issues without telecommunications.

Technology Solutions:

- Distributed Networks: Encourage the use of decentralized and distributed network technologies, such as mesh networks, which can provide localized connectivity even if centralized networks fail.

- Resilient Design: Promote the use of resilient design principles in telecommunications infrastructure to withstand natural disasters and other disruptions.

Policy and Regulation:

- Regulatory Requirements: Implement regulatory requirements for telecom providers to maintain service continuity and quickly restore services after outages.

- Incentives for Resilience: Provide incentives for telecom companies to invest in infrastructure resilience and redundancy.

Collaboration and Partnerships:

- Public-Private Partnerships: Foster collaboration between government agencies, telecom providers, and other stakeholders to enhance the resilience of communication networks.

- Community Networks: Support the development of community-based networks and local initiatives to ensure connectivity during large-scale outages.

Alternative Communication Methods:

- Community Centers: Establish community centers equipped with satellite communication systems to serve as hubs for information and coordination during outages.

- Radio Communication: Promote the use of amateur radio (HAM radio) and other radio communication systems as reliable alternatives during telecommunications failures.

7.3.B Emergency Communication Systems

Emergency services utilize various communication systems, including radio networks and public alerting systems, to ensure rapid response and dissemination of critical information during emergencies.

Risk: Losing emergency communication systems, such as radio networks and public alerting systems, poses significant risks to public safety, emergency response effectiveness, and overall community resilience.

Probability: Possible - No historically significant events

Consequences: Minor

Risk Treatment Options: - Mitigate

The following actions can be taken to mitigate this risk:

Redundant Communication Systems:

- Multiple Channels: Develop and maintain multiple communication channels, including landline, mobile, satellite, and internet-based systems, to ensure redundancy.

- Backup Systems: Establish backup radio networks and alternative public alerting systems, such as sirens and community notification systems.

Interoperability and Integration:

- Interoperable Equipment: Ensure that communication equipment used by different emergency services is interoperable, allowing for seamless communication between agencies.

- Integrated Platforms: Use integrated communication platforms that can switch between different communication channels as needed.

Emergency Preparedness and Training:

- Regular Drills: Conduct regular drills and exercises that simulate the loss of communication systems to prepare emergency responders for such scenarios.

- Training Programs: Provide comprehensive training for emergency personnel on the use of backup communication systems and protocols.

Community Engagement and Education:

- Public Awareness Campaigns: Educate the public on alternative communication methods and emergency procedures in case of communication system failures.

- Local Networks: Encourage the development of local neighborhood networks and community groups to facilitate information sharing during emergencies.

Technology Solutions:

- Satellite Communications: Invest in satellite communication systems that can operate independently of terrestrial infrastructure and provide reliable connectivity during disasters.

- Mobile Communication Units: Deploy mobile communication units (e.g., portable radio towers, satellite uplinks) that can be quickly set up in affected areas.

Policy and Regulatory Support:

- Regulatory Standards: Implement regulatory standards that require redundancy and resilience in emergency communication systems.

- Funding and Resources: Secure funding for upgrading and maintaining emergency communication infrastructure.

Cross-Agency Collaboration:

- Mutual Aid Agreements: Establish mutual aid agreements with neighboring jurisdictions to provide support and resources during communication outages.

- Joint Operations Centers: Create joint operations centers that can facilitate coordination and communication among various emergency services.

7.3.C Healthcare Facilities

Clinics: Central Hastings Family Health Team offers clinics, and medical offices, providing essential medical services to residents and visitors, supporting public health.

Risk: Losing access to clinics and medical offices provided by the Municipality of Centre Hastings and the Central Hastings Family Health Team can pose risks to the health and well-being of residents and visitors.

Probability: Unlikely - No events

Consequences: Insignificant

Risk Treatment Options: - Mitigate

The following actions can be taken to mitigate this risk:

Alternative Service Delivery Models:

- Telehealth Services: Expand telehealth options to provide remote consultations, virtual appointments, and prescription refills for patients unable to visit clinics in person.

- Mobile Clinics: Deploy mobile clinics to reach underserved areas and provide essential medical services to residents.

Collaboration and Integration:

- Partnerships with Hospitals: Collaborate with hospitals and healthcare facilities to ensure continuity of care and seamless referral pathways for patients requiring specialized services.

- Interdisciplinary Care Teams: Establish interdisciplinary care teams involving physicians, nurses, social workers, and other healthcare professionals to provide comprehensive care to patients.

7.4 Emergency Services

The following emergency services are available in Centre Hastings:

Fire Department: The Centre Hastings Fire Department plays a crucial role in fire prevention, suppression, and emergency response, safeguarding lives, and property from fire hazards.

Police Services: Ontario Provincial Police provide local police services to ensure law enforcement, public safety, and emergency response coordination within the municipality.

Emergency Medical Services (EMS): Hastings Quinte EMS providers offer emergency medical care, ambulance transportation, and paramedic services, addressing medical emergencies and accidents.

Risk: Losing one or more of the emergency services provided by the Centre Hastings Fire Department, Ontario Provincial Police (OPP), and Hastings Quinte EMS can pose significant risks to public safety, emergency response capabilities, and overall community well-being.

Probability: Unlikely - No historical events

Consequences: Insignificant

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Interagency Collaboration:

- Mutual Aid Agreements: Maintain mutual aid agreements between neighboring municipalities and emergency services to provide backup support and resources during emergencies.

- Integrated Emergency Response: Foster collaboration and coordination among fire departments, police services, EMS providers, and other emergency responders to ensure a unified and effective response to emergencies.

Community Engagement and Empowerment:

- Citizen Preparedness Programs: Engage residents in emergency preparedness initiatives, such as CPR training, first aid courses, and neighborhood watch programs, to enhance community resilience and self-reliance.

- Community Policing: Promote community policing strategies that prioritize building trust, fostering positive relationships, and empowering residents to actively participate in crime prevention and public safety efforts.

Technology and Innovation:

- Emergency Notification Systems: Implement robust emergency notification systems (e.g., reverse 911, text alerts) to disseminate critical information and warnings to residents during emergencies.

- Telemedicine and Remote Care: Explore telemedicine and remote care solutions to provide medical consultations, triage, and support services to residents in remote or underserved areas.

Resource Allocation and Planning:

- Risk Assessment and Planning: Conduct comprehensive risk assessments and emergency preparedness planning to identify vulnerabilities, prioritize resources, and mitigate potential threats to public safety and well-being.
- Investment in Infrastructure: Allocate resources for upgrading and maintaining emergency response infrastructure, equipment, and facilities to ensure readiness and resilience in the face of evolving threats.

Policy Support and Advocacy:

- Advocate for Funding: Advocate for government funding and support to maintain and enhance emergency services, including adequate staffing, training, equipment, and operational budgets.

- Policy Development: Participate in the development of policies, regulations, and standards that promote effective emergency response, community safety, and public health.

7.5 Education Facilities

Schools and Educational Institutions

Central Hastings School provides learning opportunities and support the development of the local workforce and community.

Risk: The risk of losing Central Hastings School, or any educational institution, can have far-reaching consequences for students, families, the local workforce, and the broader community.

Probability: Unlikely - No historical events however the public school was integrated into the High School building.

Consequences: Insignificant

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Community Mobilization and Advocacy:

- Stakeholder Engagement: Mobilize parents, students, educators, community leaders, and policymakers to advocate for the preservation of Central Hastings School and the importance of investing in education.

- Public Awareness Campaigns: Raise awareness about the value of education, the benefits of Central Hastings School to the community, and the potential consequences of its closures.

Alternative Educational Options:

- School Reconfiguration: Explore options for school consolidation, reconfiguration, or partnerships with neighboring school districts to maintain educational services and optimize resources.

- Virtual Learning: Consider virtual or distance learning models to provide alternative educational options for students, especially in rural or underserved areas.

7.6 Commercial and Industrial Infrastructure:

Businesses and Industries: Various commercial and industrial establishments contribute to the local economy, including agriculture, manufacturing, retail, and tourism sectors.

Critical Manufacturing Facilities: Manufacturing facilities producing essential goods and services, such as food processing plants, contribute to food security and economic resilience.

Risk: Losing critical manufacturing facilities and other businesses and industries in Centre Hastings can pose significant risks to the local economy, employment opportunities, supply chains, and community well-being.

Probability: Unlikely: No historical events

Consequences: Insignificant

Risk Treatment Options: Mitigate

The following actions can be taken to mitigate this risk:

Business Retention and Expansion:

- Retention Programs: Implement programs and incentives to retain existing businesses, support their growth, and prevent closures through access to financing, technical assistance, and market development support.

- Business Attraction: Attract new businesses and industries that complement Centre Hastings' strengths, resources, and market opportunities, diversifying the local economy and creating new job prospects.

Supply Chain Resilience:

- Local Sourcing: Promote local sourcing and procurement practices to strengthen supply chain resilience, reduce dependency on external suppliers, and support local manufacturers, producers, and suppliers.

- Supply Chain Mapping: Map critical supply chains, identify vulnerabilities, and develop contingency plans to mitigate risks and ensure continuity of essential goods and services during disruptions.

Workforce Development:

- Training Programs: Invest in workforce training and development programs to equip workers with the skills, certifications, and competencies needed to thrive in evolving industries, including manufacturing, technology, and advanced manufacturing.

- Entrepreneurship Support: Provide resources, mentorship, and financing options to aspiring entrepreneurs and small business owners to launch and grow innovative startups and microenterprises in Centre Hastings.

Industry Diversification:

- Sectoral Diversity: Foster diversification of industries, markets, and export destinations to reduce reliance on a single sector or market, enhancing economic resilience and adaptability to changing market conditions.

- Value-added Processing: Encourage value-added processing and manufacturing activities that add value to local agricultural products, natural resources, and raw materials, creating higher-paying jobs and expanding market opportunities.

Community Economic Development:

- Economic Development Plans: Develop comprehensive economic development strategies and action plans in collaboration with local stakeholders, government agencies, and economic development organizations to foster inclusive growth, innovation, and competitiveness in Centre Hastings.

- Place-based Initiatives: Implement place-based initiatives, placemaking projects, and community revitalization efforts to enhance the attractiveness, livability, and vibrancy of Centre Hastings as a destination for residents, businesses, and visitors alike.

Collaborative Partnerships:

- Public-Private Partnerships: Foster partnerships between government, businesses, educational institutions, and community organizations to leverage resources, expertise, and networks for collective action on economic development, workforce training, and infrastructure investment.
- Regional Collaboration: Collaborate with neighboring municipalities, economic regions, and industry clusters to capitalize on shared opportunities, address common challenges, and promote regional economic integration and cooperation.

7.7 Emergency Shelters and Community Centers

Emergency Shelters: Centre Hastings is home to eight designated shelters to provide temporary accommodation and support services for individuals and families displaced by emergencies, including natural disasters and extreme weather events.

Community Centers: Community centers serve as gathering places for social, recreational, and cultural activities, fostering community resilience and cohesion.

Risk: Both emergency shelters and community centers play crucial roles in supporting community resilience and well-being in Centre Hastings. However, several risks could impact these facilities, including capacity limitations, resource constraints and financial sustainability.

Probability: Unlikely: No historical events

Consequences: Insignificant

Risk Treatment Options: - Mitigate

The following actions can be taken to mitigate this risk:

- Capacity Planning and Coordination: Develop contingency plans and partnerships with neighboring municipalities, organizations, and businesses to expand emergency shelter capacity and coordinate response efforts during emergencies.

- Resource Management and Preparedness: Stockpile emergency supplies, establish mutual aid agreements, and conduct regular drills and training exercises to ensure readiness and resilience in emergency shelter operations.

- Accessibility and Inclusivity: Conduct accessibility assessments, implement accommodations for diverse needs, and provide cultural competency training for staff to enhance the accessibility and inclusivity of emergency shelters and community centers.

- Collaborative Partnerships: Forge partnerships with community organizations, service providers, and volunteers to enhance the delivery of support services, programming, and outreach initiatives at emergency shelters and community centers.

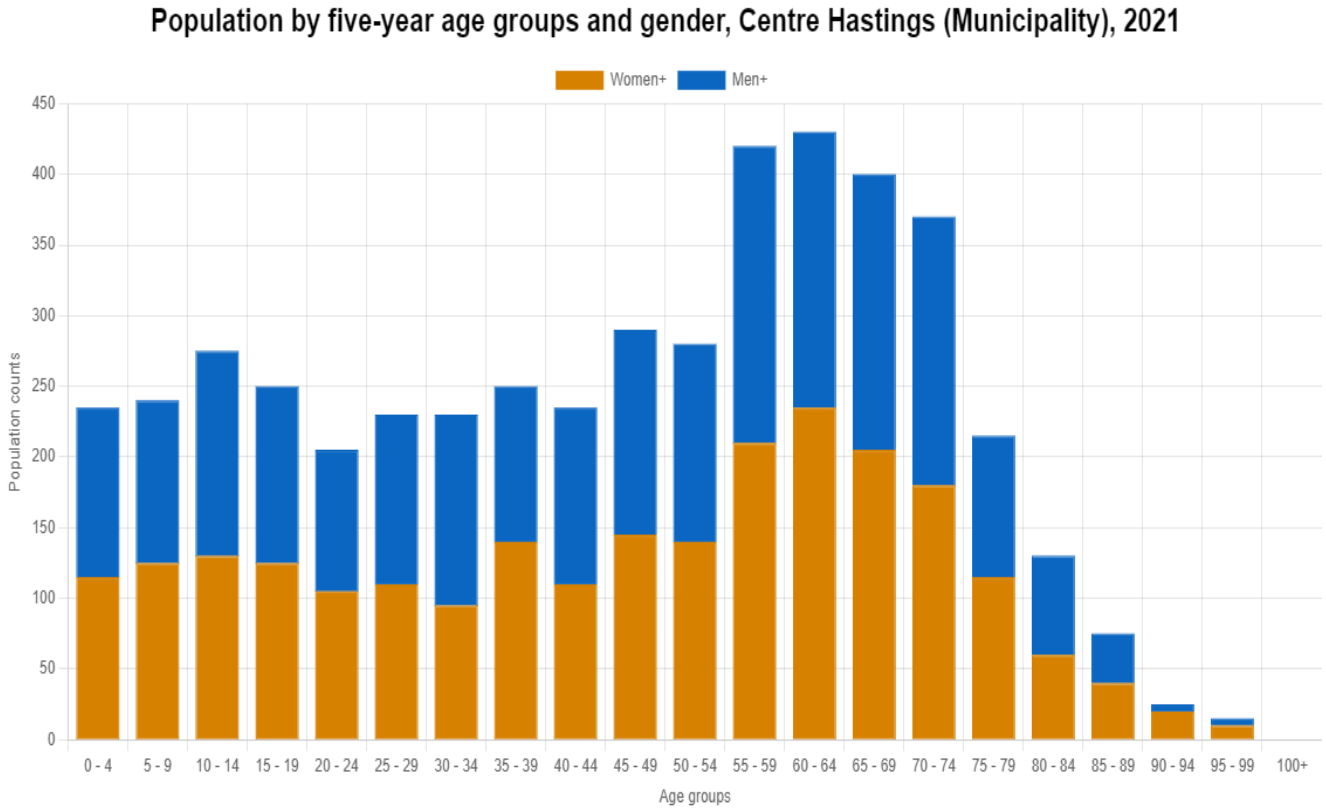
- Financial Sustainability Planning: Diversify funding sources, explore revenue-generating opportunities, and develop long-term financial sustainability plans to ensure the continued operation and maintenance of emergency shelters and community centers.

- Infrastructure Renewal and Upgrades: Invest in the repair, renovation, and modernization of emergency shelters and community centers to address safety concerns, improve accessibility, and enhance the user experience for residents.

- Community Engagement and Empowerment: Foster meaningful engagement with residents, stakeholders, and community groups to solicit input, address concerns, and co-design initiatives that meet the evolving needs and aspirations of the community.

8.0 Demographic Profile:

8.1 Population by Age Groups



In 2021, 745 children aged 0 to 14 were enumerated in Centre Hastings (Municipality), representing respectively 15.5% of the total population. In comparison, for Canada, the proportion of children was 16.3% in 2021.

The working age population (15 to 64) represented 59.0% of the total population. In comparison, for Canada, the proportion of the population aged 15 to 64 was 64.8% in 2021.

In 2021, 1,230 persons aged 65 and over were enumerated in Centre Hastings (Municipality), representing respectively 25.6% of the total population. In comparison, for Canada, the proportion of seniors was 19.0% in 2021.

1) **General Information**

- The graph shows a significant proportion of the population in the 55-59, 60-64, 65-69, and 70-74 age groups. Older adults are generally at a higher risk in the event of a fire due to factors such as reduced mobility,

slower reaction times, and potential health issues.

- This demographic might require more assistance during evacuation and may also have a higher likelihood of experiencing severe consequences from smoke inhalation or burns.

2. **Children (0-14 age groups)**

    - There is also a noticeable number of children in the 0-4, 5-9, and 10-14 age groups. Children are vulnerable in fire situations due to their limited ability to respond appropriately, lack of awareness, and physical limitations.

    - Young children may need additional guidance and support to evacuate safely and might not be able to use fire safety equipment effectively.

3. **Middle-Aged Population (35-49 age groups)**

    - This segment of the population, while generally more capable of self-evacuation, might have responsibilities for both the younger and older members of their households. This dual responsibility can complicate evacuation procedures and increase the risk of injury or fatalities during a fire.

Mitigation Considerations:

- Educational Programs and Drills: Implementing fire safety education tailored to different age groups, including drills and practical exercises, could be crucial. For older adults, special emphasis on mobility aids and evacuation plans is important. For children, interactive and engaging educational methods might be more effective.
- Accessibility and Egress: Ensuring that buildings, especially residential ones, have accessible exits and that evacuation routes are clearly marked and free of obstacles can significantly reduce risks for both older adults and children.

- Fire Detection and Suppression Systems: Enhanced fire detection systems (like smoke alarms and heat detectors) and suppression systems (such as sprinklers) can be vital in providing early warning and controlling fires before they spread. These systems should be maintained and tested regularly.

- Community Support Systems: Establishing neighborhood watch programs or buddy systems can help ensure that vulnerable individuals, such as the elderly and children, receive the assistance they need during a fire emergency.

8.2 Immigrant Status

According to the 2021 Census, 300 people, that is, 6.3% of the population, were foreign-born (immigrants), 4,440 (93.8%) were Canadian-born (non-immigrants) and 0 (0.0%) were non-permanent residents.

8.3 Recent Immigrants

Among immigrants in 2021, 10 came between 2016 and 2021. These recent immigrants made up 3.4% of the immigrant population.

8.4 Religion

Religion: In 2021, the top religious group was Other Christians, with about 850 persons representing 18.0% of the total population. The second group was Catholic, with about 730 persons representing 15.4% of the total population. The population who declared no religion and secular perspectives numbered 1,910 persons, representing 40.3% of the total population.

8.5 Ethnic or cultural origins

Ethnic or cultural origins: In 2021, the most frequently reported ethnic or cultural origin was English, with about 1,615 persons representing 34.1% of the total population. The second origin was Irish, with about 1,315 persons representing 27.8% of the total population. The third origin was Scottish, with about 1,160 persons representing 24.5% of the total population.

8.6 Amish Demographic

In Centre Hastings, the presence of a large Amish population introduces unique demographic risks from a fire service community risk perspective.

Traditional Lifestyles and Housing:

Construction Materials: Mennonite and Amish homes are often built using traditional methods and materials, which may not meet modern fire safety codes. This can include wooden structures, which are more susceptible to rapid fire spread.

Heating and Lighting: These communities often use wood-burning stoves, kerosene lamps, and other non-electric sources of heat and light, which can be fire hazards if not properly managed or maintained.

Fire Detection Systems: There may be a lack of modern fire detection systems like smoke alarms and sprinklers in these homes due to the communities' avoidance of modern technology.

Emergency Communication:

Limited Access to Technology: Without regular use of telephones, cell phones, or the internet, Mennonite and Amish communities may face challenges in quickly reporting fires or receiving emergency alerts.

Community Outreach: Fire safety education and emergency preparedness programs need to be adapted to be accessible to these communities, respecting their cultural norms and communication preferences.

Mobility and Evacuation:

Transportation: The reliance on horse-drawn vehicles may slow down evacuation efforts and hinder access for fire services, especially in emergencies requiring quick response times.

Large Families: Homes often house large families, which can complicate evacuation procedures and increase the risk of injury or fatalities, particularly if multiple generations live under one roof.

Community Response and Resources:

Self-Sufficiency: These communities are highly self-sufficient and may be reluctant to call for outside help or may prefer to handle emergencies internally. This self-reliance can delay the response from professional fire services.

Volunteer Firefighters: If members of the community serve as volunteer firefighters, they might have unique insights but also specific needs for training and equipment that respect their lifestyle.

Mitigation Strategies:

- **Community Engagement**: Building relationships with community leaders to develop trust and effective communication channels. Tailoring fire safety education to fit cultural norms and languages used by the communities.

- **Fire Safety Education**: Conducting workshops and training sessions on safe use of heating and lighting methods, maintenance of fire detection equipment, and fire response plans that consider the large family structures.

- **Customized Equipment and Training**: Ensuring volunteer firefighters within the community receive training and resources that are compatible with their lifestyle and technology limitations.

- **Emergency Planning**: Developing detailed and accessible emergency response plans that consider transportation methods and the need for rapid evacuation, particularly for homes with large families.

9.0 Hazard Profile:

9.1 Natural Hazards:

- **Severe Weather Events:** This includes heavy snowstorms, ice storms, high winds, and thunderstorms, which are common in Ontario. These events can lead to power outages, road closures, and increased fire risk from alternative heating methods.

- **Flooding:** Due to heavy rains and spring thaw, flooding can occur, particularly in low-lying areas and near water bodies like the Moira River and Moira Lake.

- **Wildfires:** Rural and forested areas around Centre Hastings are susceptible to wildfires, especially during dry seasons.

- **Extreme Temperatures:** Both extreme cold in winter and heat waves in summer pose risks, particularly to vulnerable populations like the elderly and young children.

9.2 Technological and Human-Made Hazards:

- **Agricultural Accidents:** Given the rural nature and agricultural activities, there is a risk of accidents involving machinery, chemicals, and livestock.

- **Transportation Incidents:** Road accidents, especially on rural roads and highways, including those involving horse-drawn vehicles used by the Amish communities.
- **Industrial and Environmental Hazards:** Any local industrial activities or facilities handling hazardous materials pose risks of spills, explosions, or other incidents.

9.3 Fire Hazards:

- **Structural Fires:** Risks associated with older buildings, traditional heating and lack of modern fire detection and suppression systems.

- **Wildfires:** The rural landscape, forests, and farmlands can be susceptible to wildfires, which can spread quickly and impact both residential areas and agriculture.

9.4 Public Health Hazards:

- **Pandemics and Infectious Diseases:** The spread of diseases, as seen with COVID-19, can significantly impact community health, especially in close-knit communities with large gatherings.

- **Water Quality:** Issues with well water contamination in rural areas could pose health risks.

- **Food Safety:** Risks associated with locally produced food and markets, particularly with limited oversight and regulation.

9.5 Community-Specific Risks:

- **Mennonite and Amish Communities:** Traditional lifestyles pose unique risks, including limited access to modern communication for emergencies, reliance on horse-drawn transportation, and large family sizes in single homes complicating evacuation.

- **Volunteer Fire Services:** Dependence on volunteer firefighters can pose challenges in terms of availability, training, and resource adequacy.

9.6 Mitigation and Preparedness Strategies:

- **Emergency Communication Systems:** Enhancing communication methods, such as community alert systems, that respect cultural practices of the Amish and Mennonite communities.

- **Infrastructure Improvements:** Upgrading roads for better access, ensuring reliable water supply for firefighting, and winterizing infrastructure to withstand severe weather.
- **Fire Safety Education and Resources:** Providing culturally appropriate fire safety training and resources, particularly focusing on safe practices for traditional heating and lighting methods.

- **Flood Mitigation:** Implementing flood defenses, improving drainage systems, and developing early warning systems for areas prone to flooding.

- **Health Preparedness:** Strengthening healthcare facilities, ensuring vaccination programs, and promoting hygiene practices to mitigate public health risks.

- **Community Engagement and Training:** Building strong relationships with community leaders, providing targeted training for emergency preparedness, and involving local volunteers in planning and response efforts.

10.0 Public Safety Response Profile:

10.1 Fire Department

The Centre Hastings Fire Department is a dedicated and well-equipped emergency response team that provides a wide range of services to ensure the safety and protection of the community. The department follows established By-Laws and protocols to deliver effective fire suppression and emergency response services.

The Centre Hastings Fire Department currently provides services as per By-Law #2013-03 Establish and Regulate a Fire Department to include:

Fire Suppression and Emergency Response:

Fire suppression services shall be delivered in both an offensive and defensive mode and shall include search and rescue operations, forcible entry, ventilation, protecting exposures, salvage, and overhaul as appropriate.

Emergency pre-hospital care responses and medical acts such as defibrillation, standard first aid, CPR, and the Emergency Medical Responders Program shall be maintained to Base Hospital protocols as agreed. Special technical and/or rescue services shall include performing extrication using hand tools, air bags and heavy hydraulic tools as required; water/ice rescue services up to an including the land-based level in accordance with available resources; Hazardous material response to awareness level only. Confined space rescue, trench rescue, high angle rescue, HUSAR, or other highly specialized technical and/or rescue services shall not be provided by the Centre Hastings Fire Department.

- Vehicle firefighting
- Grass, brush firefighting
- Public Assistance
- Other Agency Assistance
- Mutual Aid Assistance
- Automatic Aid
- Participation in Community Emergency Plan
- Fire Protection Agreements
- Transportation incidents including vehicles, trains and aircraft.
- Any other public service

Fire Prevention:

- Inspections arising from complaint, request or retrofit shall be provided in accordance with the FPPA and policies of the Fire Departments Fire Prevention and Public Safety Division.

- New construction inspections and plan reviews of buildings under construction in matters respective of fire protection systems within buildings shall be conducted in accordance with the applicable By-law and operating procedures.

- The Ontario Fire Service Standard for Fire Prevention Officers and the Ministry of Municipal Affairs and Housing Standards shall be used as a reference guide for fire prevention training.

Compliment:

The department operates out of two stations; station one located at 741 Slab Road, and station two located at 244 St. Lawrence Street East consisting of a compliment of 40 firefighters, and the following apparatus:

1. **Station 1 (Ivanhoe)**
    a. **Pumper/Tanker 101** – 2016 Freightliner equipped with a 1050 GPM pump, 1500-gallon water tank, ground ladders, SCBA, and fire-fighting equipment.

    b. **Tanker 102** – 2016 Freightliner equipped with 1500-gallon water tank, onboard pump, portable pump, and forestry equipment.

    c. **Tanker 103** – 1999 GMC equipped with wildland firefighting equipment, onboard pumps, and miscellaneous equipment.

    d. **Rescue/Equipment Van 104** – 1997 Van equipped with firefighting PPE, medical response equipment, and other miscellaneous equipment.

2. **Station 2 (Madoc)**
    a. **Pumper 201** – 2023 Freightliner equipped with a 1500 GPM pump, 1000-gallon water tank, ground ladders and fire-fighting equipment.

    b. **Aerial 202** – 1994 Simon-Duplex equipped with various ground ladders, 65-foot aerial apparatus, and 1050 GPM pump.

    c. **Rescue 203** - 1993 Spartan equipped with Personal Protective Equipment, SCBA, water rescue equipment, vehicle extrication tools, medical response equipment and other misc. equipment.

    d. **Pumper/Tanker 204** – 2008 Spartan equipped with a 1050 GPM pump, 1500-gallon water tank, SCBA wildland firefighting equipment, and other miscellaneous equipment.

Investigation:

The preliminary investigation of cause, origin and circumstances of fire is a responsibility of local fire departments and is an essential component of fire protection.

We are member of the Hastings and Prince Edward County Mutual Aid Association and receive assistance from neighbouring municipalities when requested.

10.2 Police Services

Centre Hastings is served by the Centre Hastings Ontario Provincial Police (O.P.P.). The O.P.P. provides a range of law enforcement and community safety services to the residents of Centre Hastings, including the communities of Madoc and surrounding areas. Here is a summary of the key services they provide:

- **Crime Prevention:** The O.P.P. engages in proactive crime prevention initiatives, working closely with community members to reduce crime rates. This includes educational programs, community outreach, and the promotion of safety awareness

- **Community Policing:** The service emphasizes building strong relationships with the community. Officers often participate in local events, school programs, and neighborhood meetings to foster trust and cooperation between the police and the public.

- **Traffic Enforcement and Road Safety:** The O.P.P. is responsible for enforcing traffic laws and ensuring road safety within the municipality. This includes conducting regular patrols, setting up checkpoints, and implementing measures to reduce impaired and distracted driving.

- **Emergency Response:** The police service provides immediate response to emergencies, including accidents, medical emergencies, and incidents of violence or crime. They are equipped to handle a variety of urgent situations to protect public safety.

- **Investigations:** The O.P.P. conducts thorough investigations of crimes reported within their jurisdiction. This involves collecting evidence, interviewing witnesses, and working with other law enforcement agencies when necessary to solve crimes and bring perpetrators to justice.

- **Youth Engagement:** The police service runs programs aimed at engaging with youth, such as educational initiatives in schools and youth clubs. These programs focus on issues like drug prevention, internet safety, and bullying.

- **Victim Support:** The O.P.P. provides support and assistance to victims of crime, ensuring they have access to necessary resources and services, including counseling and legal support.

- **Collaboration with Other Agencies:** The service often collaborates with other local, provincial, and federal law enforcement agencies to enhance public safety and address broader issues that affect the community.

10.3 Emergency Medical Services

Hastings-Quinte Emergency Medical Services (EMS) provides essential emergency medical services to the community of Centre Hastings and the broader Hastings and Prince Edward counties region. Centre Hastings houses one ambulance base in the village of Madoc. Here is a summary of the key services they offer:

- **Emergency Response:** Hastings-Quinte EMS offers rapid response to medical emergencies, providing critical care and transportation to the nearest appropriate medical facility. Their paramedics are trained to handle a wide range of emergency situations, from cardiac arrests to severe trauma incidents.

- **Advanced Life Support (ALS):** The service is equipped with Advanced Life Support capabilities, meaning their paramedics can perform advanced medical procedures and administer medications to stabilize patients in critical conditions before reaching the hospital.

- **Patient Transport:** Besides emergency transport, Hastings-Quinte EMS also provides non-emergency patient transportation services. This includes transfers between medical facilities and transportation for patients requiring medical supervision during transit.

- **Community Paramedicine:** This innovative program focuses on proactive healthcare, particularly for vulnerable populations such as the elderly or those with chronic illnesses. Community paramedics visit patients at home to provide health assessments, monitor chronic conditions, and help manage medications, reducing the need for emergency interventions.

- **Public Education and Training:** Hastings-Quinte EMS engages in community education initiatives, teaching CPR, first aid, and other lifesaving skills. They work to raise public awareness about emergency preparedness and health issues.

- **Collaboration with Healthcare Providers:** The service collaborates with hospitals, primary care providers, and other healthcare professionals to ensure

seamless care for patients. This includes participating in integrated care teams and contributing to health planning and emergency preparedness efforts in the region.

- **Specialized Response Teams:** Hastings-Quinte EMS has specialized teams trained to respond to specific types of emergencies, such as hazardous materials incidents or mass casualty events. These teams are equipped with specialized skills and equipment to handle complex situations effectively.

- **Disaster and Major Event Preparedness:** The service plays a crucial role in emergency planning and response for large-scale events or disasters. They work with other emergency services and municipal authorities to develop and implement response plans, ensuring the community is prepared for a variety of potential emergencies.

- **Data Collection and Quality Improvement:** Hastings-Quinte EMS continuously monitors and evaluates their services through data collection and analysis. This helps in improving the quality of care they provide and ensuring they meet the highest standards of emergency medical services.

11.0 Community Services Profile:

Centre Hastings offers a variety of community services aimed at enhancing the quality of life for its residents. These services cater to different needs, including healthcare, education, recreation, social support, and public safety.

Here is a profile of the key community services available in Centre Hastings:

Municipal services such as:

- Animal Control.
- Building Permits.
- By-law Enforcement
- Economic Development/Community Development
- Finance/Tax Services
- Treasury and Financial Services
- Public Works
- Parks and Recreation Services
- Environmental Services
- Library Services

11.1 Healthcare Services

- Local Health Clinics and Family Health Team: Offer primary care services, including general practice, preventative care, and chronic disease management.

- Mental Health and Addiction Services: Various organizations provide support for mental health issues and addiction recovery, including counseling and rehabilitation services.

11.2 Education

- Public Schools: Managed by the Hastings and Prince Edward District School Board, providing elementary and secondary education.

- Alternative and Continuing Education: Programs for adult education, skill development, and continuing education are available through local institutions.

11.3 Recreational Services

- Parks and Recreation Facilities: Numerous parks, trails, and sports facilities promote outdoor activities and fitness, including the Centre Hastings Park and Splash Pad.

- Community Centers: Facilities such as the Madoc and District Recreation Centre offer spaces for community events, sports, and recreational programs.

- Public Libraries: The Centre Hastings Public Library provides access to books, digital resources, educational programs, and community events.

11.4 Social Services

- Family and Children’s Services: Support for families and children, including child protection services, foster care, and family counseling.

- Senior Services: Programs and services aimed at supporting senior citizens, including home care, meal delivery, and social activities.

- Food Banks and Assistance Programs: Local food banks and organizations like the Central Hastings Support Network offer food assistance and other essential services to those in need.

11.5 Community and Cultural Services

- Arts and Culture: Local arts councils and community groups promote cultural activities, including art shows, theater productions, and music events.

- Festivals and Events: Annual community events and festivals foster community spirit and engagement, such as the Madoc Fair and various seasonal celebrations.

11.6 Transportation Services

- Public Transit and Transportation Assistance: Services like those provided by the Central Hastings Support Network include transportation for medical appointments, shopping, and other essential travel for residents without access to private vehicles.

11.7 Economic and Employment Services

- Employment Assistance Programs: Services that help residents find employment, including job search assistance, resume writing workshops, and skills training programs.

- Business Development Support: Resources for local businesses and entrepreneurs, including advice, networking opportunities, and funding information through organizations like the Hastings County Economic and Tourism Development Office.

11.8 Volunteer and Community Organizations

- Volunteer Opportunities: Numerous local organizations and events rely on volunteers, providing opportunities for community involvement and civic engagement.

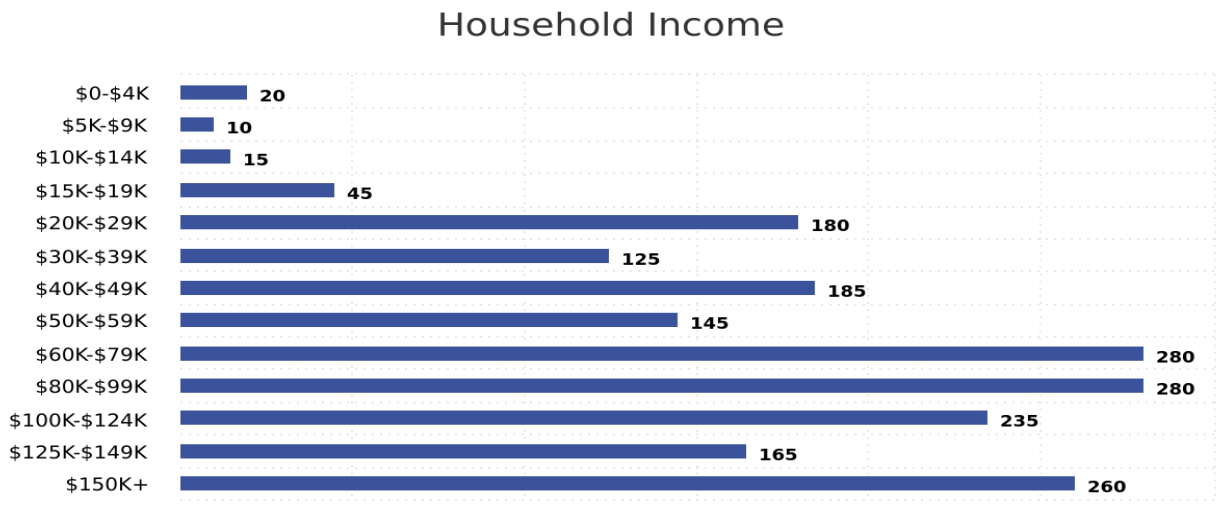
- Community Groups: Various groups and clubs cater to a wide range of interests, from sports and hobbies to social causes and support networks.

12.0 Economic Profile:

Centre Hastings has a diverse economic base with significant contributions from real estate, agriculture, and construction. The labor force is predominantly engaged in trades, transport, and service sectors. The community is economically resilient, with a strong emphasis on preparedness and recovery strategies to mitigate the impacts of emergencies. Effective planning and community cohesion are essential to maintaining economic stability and growth in the face of potential disruptions.

12.1 Household Income:

The most common household income ranges are $60K-$79K and $80K-$99K, each with 280 households. The least common income range is $5K-$9K, with only 10 households.



Source: Statistics Canada. Census.

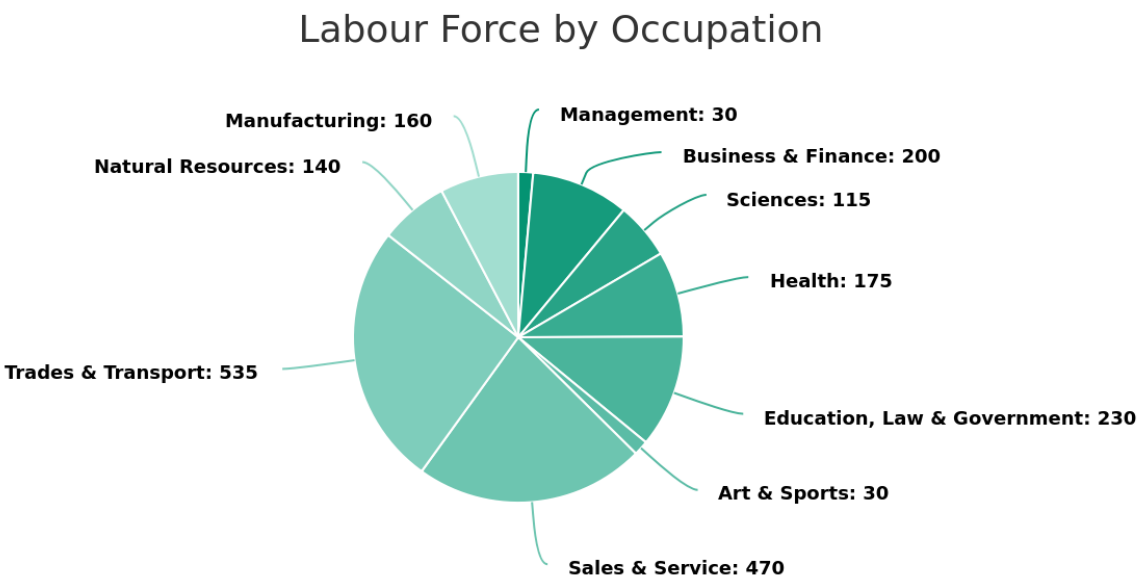
Households in the $60K-$99K income range might have more significant property and assets at risk compared to lower-income households. The destruction of homes, vehicles, and other property can lead to substantial financial losses.

Household Income Risks:

Affected households will face immediate costs for temporary housing, food, and other essentials. Higher-income households might have more savings and better insurance coverage, but the cost of displacement can still be substantial and long-lasting.

12.2 Labour Force by Profession:

The following chart illustrates the distribution of the labor force by occupation within Centre Hastings. The most common occupation category is Trades & Transport, with 535 individuals, followed by Sales & Service, with 470 individuals. The least common categories are Management and Art & Sports, each with 30 individuals.



Source: Statistics Canada. Census.

12.3 Labour Force Risks:

Trades & Transport (535 individuals) and Sales & Service (470 individuals) are the largest sectors. These occupations often rely on physical workplaces (e.g., stores, construction sites) that could be damaged or destroyed, leading to immediate job displacement and income loss.

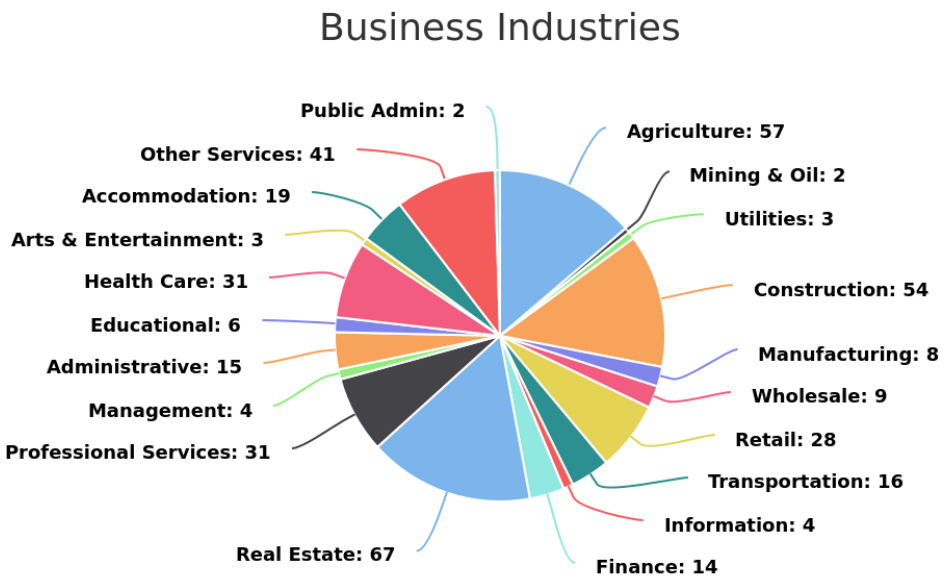
Education, Law & Government (230 individuals): Schools, government buildings, and offices could be damaged, disrupting services and employment.

Health (175 individuals): Clinics could be affected, impacting healthcare services and employment.

Loss of Employment:

Temporary or permanent closure of businesses can result in job losses across all sectors, particularly in Trades & Transport, Sales & Service, and Manufacturing (160 individuals).

12.4 Business Industries:



Source: Statistics Canada. Census.

This chart shows the distribution of businesses across various industries. The breakdown of the major industries are:

Real Estate (67%) is the largest sector in the community. This could indicate a community with a growing population or a strong housing market.

Construction (54%) is the second largest sector. This suggests that there is a lot of development happening in the community.

Professional Services (31%) and Health Care (31%) are also significant sectors. This indicates that there is a strong service sector in the community.

Retail (28%) and Accommodation (19%) are other relevant sectors, suggesting a community with a mix of businesses that cater to residents and visitors.

Other sectors include Public Administration (2%), Agriculture (5%), Mining & Oil (2%), Utilities (3%), Arts & Entertainment (3%), Educational (6%), Administrative (15%), Manufacturing (8%), Wholesale (9%), Transportation (16%), Information (4%) and Finance (14%).

The presence of a variety of businesses suggests a diverse and well-rounded community. However, the dominance of the Real Estate and Construction sectors could also indicate a community that is still under development.

12.4 Mitigation Strategies:

Emergency Preparedness:

Implementing robust emergency preparedness plans and ensuring businesses and workers have access to resources and support can mitigate some impacts.

Support for Affected Workers:

Providing financial support, job retraining programs, and mental health services can help workers transition and recover.

Rebuilding and Economic Diversification:

Investing in rebuilding efforts and diversifying the local economy can create new job opportunities and reduce future vulnerability.

Financial Preparedness Programs:

Develop programs to educate residents, particularly those in higher income brackets, on the importance of emergency preparedness kits, having adequate insurance coverage (home, flood, etc.), and maintaining a financial buffer for emergencies.

Business Continuity Planning:

Work with businesses, particularly in Trades & Transport and Sales & Service, to develop and implement business continuity plans. This could involve identifying critical operations, establishing backup locations and communication protocols, and cross-training employees.

Incentives for Retrofitting:

Offer financial incentives or rebates to encourage existing businesses to retrofit their buildings to improve their resilience to emergencies.

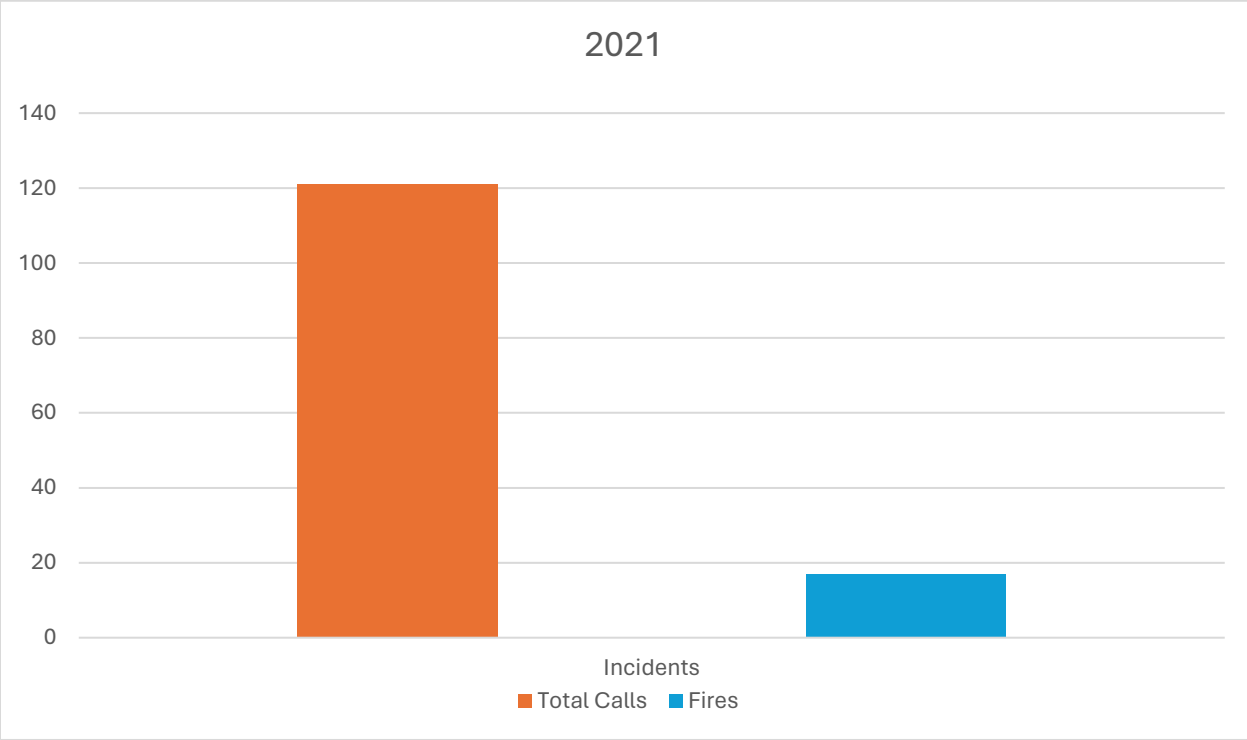
Summary:

An emergency like a fire can have far-reaching impacts on the labor force of Centre Hastings, affecting employment, economic stability, and community well-being. Proactive mitigation strategies focused on preparedness, support, and resilience are crucial to minimizing these impacts and facilitating recovery.

13.0 Past Loss and Event History Profile:

13.1 Loss and Event History 2021:

2021						
	Fires	% of year	Injuries	Fatalities	Estimated loss	Total Calls
Fire	17	14.05%	0	0	1,487,000	
Explosion	0	0%	0	0	0	
No loss outdoor fire	0	0%	0	0	0	
Total	**17**	**14.05%**				**121**



Interpretation:

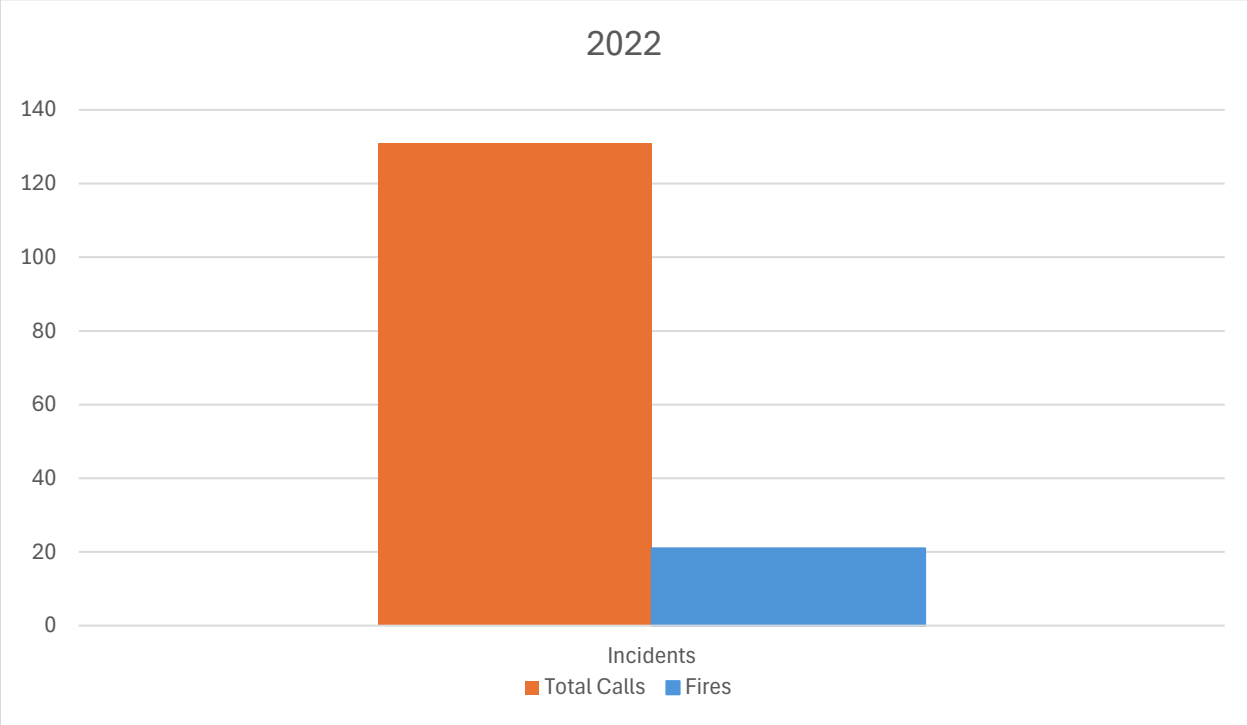
Fire Incidence Rate: The low percentage (14.05%) of fire-related calls indicates that fires were a relatively infrequent type of incident in 2021 compared to other types of calls.

Safety Record: The absence of injuries and fatalities suggests a strong safety record concerning fire incidents.

Financial Impact: Despite the low number of fires, the financial loss was significant, totaling nearly $1.5 million. This suggests that while fires were infrequent, the ones that did occur caused substantial damage.

13.2 Loss and Event History 2022:

2022						
	Fires	% of year	Injuries	Fatalities	Estimated loss	Total Calls
Fire	22	16.79%	0	0	1,378,300	
Explosion	0	0%	0	0	0	
No loss outdoor fire	0	0%	0	0	0	
Total	**22**	**16.79%**				**131**



Interpretation:

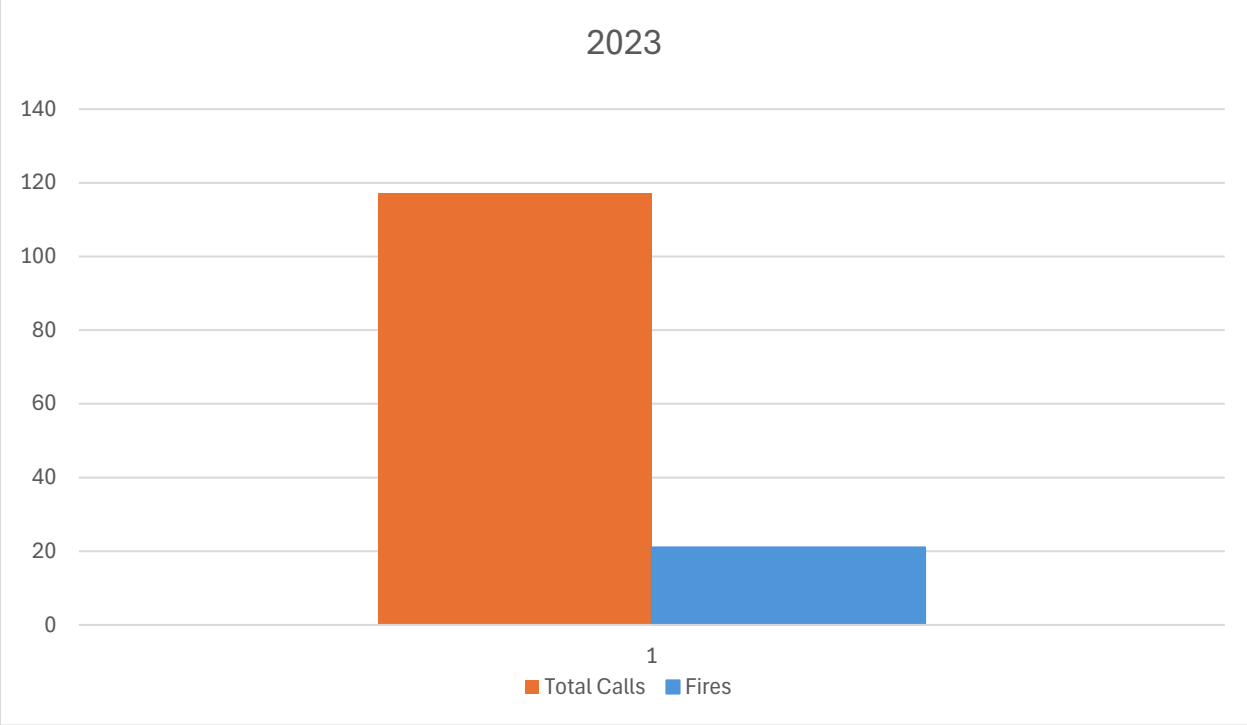
Fire Incidence Rate: The percentage of fire-related calls increased slightly compared to 2021, from 14.05% to 16.79%.

Safety Record: Similar to 2021, no injuries or fatalities were reported, indicating continued effectiveness in safety measures.

Financial Impact: The financial loss due to fires decreased slightly from $1,487,000 in 2021 to $1,378,300 in 2022. This suggests that while the number of fires increased, the severity or impact in terms of monetary loss was slightly less.

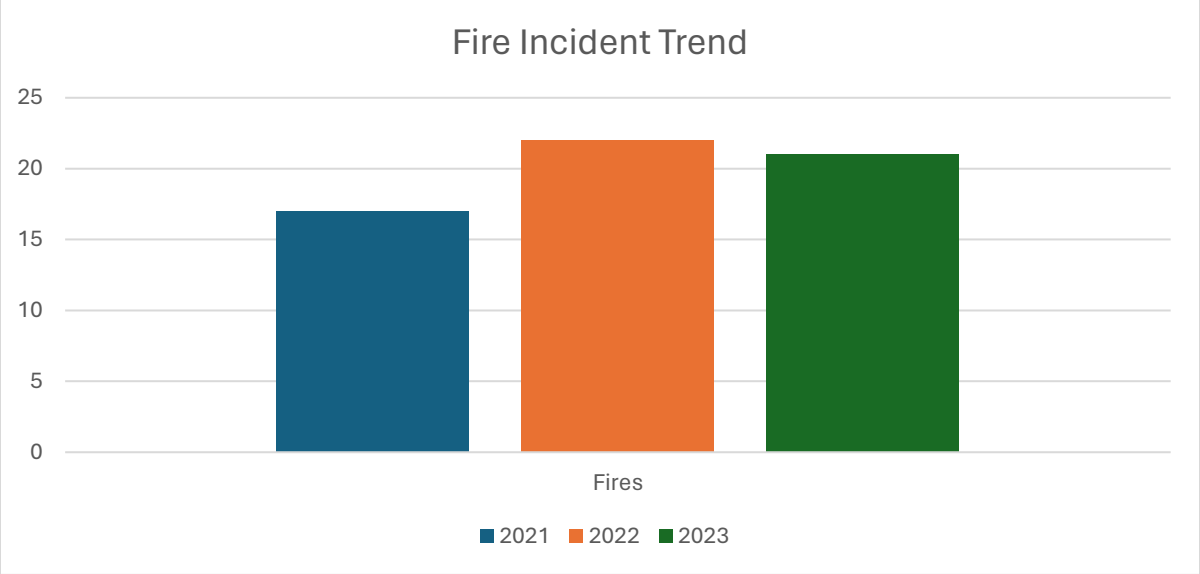
13.2 Loss and Event History 2023:

2023						
	Fires	% of year	Injuries	Fatalities	Estimated loss	Total Calls
Fire	21	17.95%	0	1	1,825,100	
Explosion	0	0%	0	0	0	
No loss outdoor fire	0	0%	0	0	0	
Total	**21**	**17.95%**				**117**



13.3 Comparative Analysis (2021 vs. 2022 vs. 2023):

Year	Total Calls	Fires	% of Year	Injuries	Fatalities	Estimated Loss
2021	121	17	14.05%	0	0	$1,487,000
2022	131	22	16.79%	0	0	$1,378,300
2023	117	21	17.95%	0	1	$1,825,100



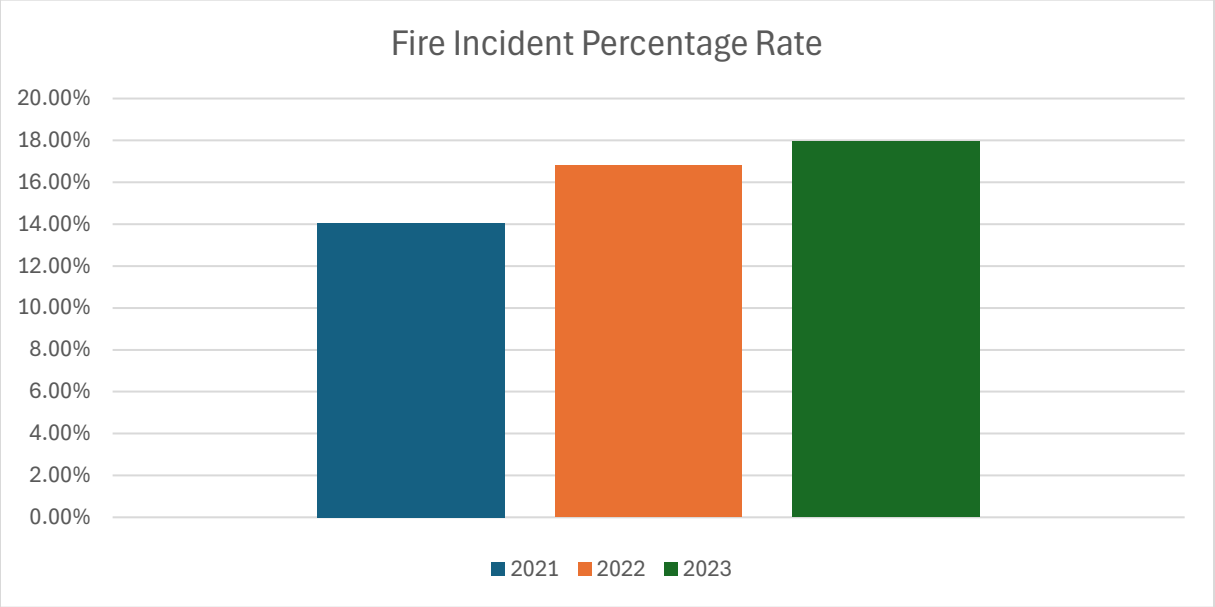
Fire Incidence Rate:

The percentage of fire-related calls has been increasing over the three years:

14.05% in 2021

16.79% in 2022

7.95% in 2023



Injuries and Fatalities:

No injuries were reported in any of the three years.

There was 1 fatality reported in 2023, which is a concerning development compared to the previous years.

Estimated Loss:

The estimated financial loss due to fires has fluctuated:

$1,487,000 in 2021

Decreased to $1,378,300 in 2022

Increased significantly to $1,825,100 in 2023

Trends and Insights:

- **Rising Fire Incidents:** The consistent increase in the percentage of fire-related calls over the three years highlights a rising trend in fire incidents. This calls for enhanced fire prevention strategies and resource allocation to manage the increasing trend.

- **Fluctuating Financial Impact:** The significant rise in estimated loss in 2023 indicates variability in the severity and impact of fires, suggesting a need for targeted measures to mitigate high-damage incidents.

- **Safety Concerns:** The occurrence of a fatality in 2023 underscores the importance of continually improving safety measures and protocols to prevent future fatalities.

Summary: The data from 2021 to 2023 shows an upward trend in fire-related incidents and associated financial losses, with a critical safety incident occurring in 2023. There is a need for ongoing assessment and enhancement of fire prevention and response strategies to address these trends and ensure the safety and well-being of the community.

13.4 Mitigation Strategies:

Based on the trends observed in the fire and loss data from 2021 to 2023, here are several mitigation strategies to address the increasing fire incidents, fluctuating financial impacts, and the critical safety concerns:

Enhance Fire Prevention Programs:

- **Public Awareness Campaigns:** Increase public education and awareness campaigns about fire safety, focusing on common causes of fires and preventive measures.

- **Fire Safety Inspections:** Regularly conduct fire safety inspections in residential, commercial, and industrial areas to identify and mitigate potential fire hazards.

Strengthen Fire Response Capabilities:

- **Training and Equipment:** Ensure that fire departments are well-trained and equipped with the latest firefighting tools and technology.

- **Rapid Response Systems:** Implement and improve rapid response systems to ensure timely and effective action during fire incidents.

Improve Building Codes and Standards:

- **Fire-Resistant Materials:** Update building codes to require the use of fire-resistant materials in construction and renovation projects.

- **Fire Suppression Systems:** Mandate the installation of fire suppression systems, such as sprinklers and fire alarms, in all buildings, especially high-risk areas.

Focus on High-Risk Areas and Populations:

- **Targeted Inspections:** Identify and focus on high-risk areas (e.g., areas with a history of frequent fires) for targeted inspections and preventive measures.

- **Vulnerable Populations:** Provide special fire safety education and resources for vulnerable populations, such as the elderly and low-income communities.

Enhance Fire Investigation and Data Collection:

- **Detailed Reporting:** Improve the accuracy and detail of fire incident reporting to better understand the causes and circumstances of fires.

- **Data Analysis:** Use data analytics to identify trends and patterns in fire incidents, enabling more targeted prevention and mitigation efforts.

Community Engagement and Collaboration:

- **Community Fire Safety Programs:** Engage community organizations in fire safety programs and initiatives to build a culture of fire prevention.

- **Collaboration with Stakeholders:** Collaborate with local governments, businesses, and other stakeholders to implement comprehensive fire safety measures.

Financial Incentives and Support:

- **Incentives for Fire Safety Upgrades:** Provide financial incentives, such as tax breaks or grants, to property owners for upgrading fire safety systems.

- **Support for Fire Victims:** Establish programs to support fire victims, including financial assistance and resources for recovery and rebuilding.

Emergency Preparedness and Evacuation Planning:

- **Evacuation Drills:** Conduct regular fire drills and evacuation exercises in communities and workplaces to ensure readiness in case of a fire.

- **Emergency Plans:** Develop and disseminate clear emergency plans that outline steps to take during a fire incident.

Specific Mitigation Actions Based on 2021-2023 Data:

Addressing the Increase in Fire-Related Calls:

- **Analyze and Address Common Causes:** Investigate the specific causes of the increased fire-related calls and address these through targeted prevention campaigns.

- **Community Risk Reduction Programs:** Implement programs aimed at reducing risks in identified high-incidence areas.

Managing Financial Impact:

- **Insurance and Risk Management:** Encourage property owners to have adequate fire insurance and promote best practices in risk management.

- **Fire Damage Mitigation:** Promote techniques and technologies that reduce the severity of fires and limit financial losses.

Preventing Fatalities:

- **Fire Safety Education:** Increase fire safety education focused on life-saving measures, such as evacuation procedures and the use of fire extinguishers.
- **Residential Safety Checks:** Offer free or low-cost fire safety checks for residential properties to identify and mitigate risks.

Summary:

From 2021 to 2023, the fire incidence rate has steadily increased, rising from 14.05% to 17.95% of total calls. Despite the consistent lack of injuries over the years, the fatality in 2023 underscores a critical safety concern. Financial losses due to fires have also fluctuated, with a significant increase in 2023, indicating variability in fire severity.

These trends highlight the urgent need for enhanced fire prevention strategies, improved response capabilities, and targeted safety measures to manage the rising number of fire incidents and mitigate their impact. Public education, rigorous safety inspections, upgraded building codes, and community engagement are essential components of a comprehensive approach to fire safety. By implementing these strategies, we can aim to reduce the occurrence and impact of fires, ensuring the safety and well-being of the community.

14.0 Conclusion:

By implementing mitigation strategies, communities can better address the increasing trend of fire incidents, mitigate financial losses, and improve overall safety to prevent future fatalities and injuries.

By addressing these recommendations, Centre Hastings can significantly reduce the vulnerability of its community to various risks. Proactive measures, combined with community engagement and continuous improvement of emergency management practices, will enhance the resilience and safety of Centre Hastings. Ensuring the well-being of residents and the protection of property and infrastructure is paramount, and these efforts will contribute to a safer, more prepared community.

Through diligent implementation of these strategies, Centre Hastings can effectively manage and mitigate the identified risks, ensuring a secure and sustainable future for all its residents.