

# Town of Milton Community Risk Assessment

Final Report  
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Presented to:



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## Preface

This Community Risk Assessment will serve as a foundational document to inform and direct the development of a municipal Fire Master Plan for the Town of Milton to address the strengths, threats and vulnerabilities that are unique to the town, to protect lives, the environment and property.

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## Acronyms

| Acronym | Definition                                |
|---------|-------------------------------------------|
| CEMP    | Community Emergency Management Program    |
| CI      | Critical Infrastructure                   |
| CO      | Carbon Monoxide                           |
| CRA     | Community Risk Assessment                 |
| FPPA    | Fire Protection and Prevention Act        |
| HIRA    | Hazard Identification and Risk Assessment |
| MFRS    | Milton Fire & Rescue Services             |
| MPAC    | Municipal Property Assessment Corporation |
| MVC     | Motor Vehicle Collision                   |
| MW      | Megawatt                                  |
| NBC     | National Building Code                    |
| NFPA    | National Fire Protection Association      |
| OBC     | Ontario Building Code                     |
| OFC     | Ontario Fire Code                         |
| OFM     | Office of the Fire Marshal                |
| PPE     | Personal Protective Equipment             |

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## EXECUTIVE SUMMARY

### Introduction

A Community Risk Assessment (CRA) is a process used to identify, evaluate, and prioritize potential hazards, vulnerabilities, and risks to the public within a specific community or geographic area. Under the Fire Protection and Prevention Act, 1997 (FPPA), **Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18)**, every municipality must complete and review a CRA “to inform decisions about the provisions of fire protection services<sup>1</sup>” in the interest of public safety. It involves gathering information, analyzing data, and engaging with stakeholders to understand the potential threats and vulnerabilities that could lead to various types of emergencies or disasters. The goal of a CRA is to inform emergency management and response agencies to enhance community resiliency and reduce the impact of potential future emergencies.

### Community Risk Assessment Process

The Office of the Fire Marshal (OFM) has developed a guideline (OFM-TG-02-2019) to assist municipalities during the process of conducting a CRA. As per O.Reg. 378/18, there are nine mandatory profiles that must be examined:

1. **Geographic Profile:** Physical features of the community
2. **Building Stock Profile:** Types, numbers, uses and ages of buildings in the community
3. **Critical Infrastructure Profile:** Facilities and services that meet vital needs, sustain economy, and protect public security
4. **Demographic Profile:** Composition of the community’s population
5. **Public Safety and Response Profile:** Organized agencies and organizations within and external to the community that can respond to certain types of incidents
6. **Community Services Profile:** Community agencies, organizations and associations that can provide supportive services
7. **Hazard Profile:** Natural, human-caused, and technological hazards in the community
8. **Economic Profile:** Economic sectors that are critical to financial stability of the community
9. **Past Loss and Event History Profile:** Past emergency responses in the community

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<sup>1</sup> (Ontario Regulation 378/18: Community Risk Assessments, Mandatory Use, Section 1 (b))

Each profile is considered and, where applicable, taken through the core five-step process of a CRA development as outlined in the table below.

| No. | Step                            | Description                                                                                                                                                                                                                         |
|-----|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Data Collection                 | Gather relevant data about the community, including demographics, geography, infrastructure, land use, historical disaster data, socio-economic factors, and stakeholder input.                                                     |
| 2   | Hazard Identification           | Identify the various hazards that could affect the community. Hazards include natural, human-made and technological events.                                                                                                         |
| 3   | Vulnerability Analysis          | Assess the community's vulnerabilities in relation to each identified hazard. Consider factors such as population density, housing quality, socio-economic status, access to community resources and community protection agencies. |
| 4   | Risk Assessment                 | Combine information about hazards and vulnerabilities to assess the overall risk to the community by quantifying the likelihood and potential impact of various hazards occurring and affecting vulnerable areas.                   |
| 5   | Risk Ranking and Risk Treatment | Assign each risk a ranking score and potential treatment options to accept, avoid, mitigate, or transfer the risk.                                                                                                                  |

The results of the five-step process will provide a series of identified risks and key findings. Identified risks are factors which may highlight a need for future consideration during the development of a Fire Master Plan (FMP) when examining emergency service levels, while key findings may be noted as strengths in the community's current response model and/or trends to be monitored.

The identified risks and key findings of the Town of Milton's CRA are summarized in the next section and a full analysis of the risk assessment process is outlined in Section 11 of this report.

## Summary of Identified Risks and Key Findings

The following identified risks and key findings are drawn from analyses presented throughout the report. They are grouped based on the nine mandatory profiles and in the order in which they appear in the report.

As per the OFM technical guidelines, the risk treatments presented in this report are a generalized basis for further consideration and in-depth analysis during the development of a FMP, which will serve to account for feasibility of risk treatments, cost, and execution.

Table 1: Summary of Identified Risks

| No. | Profile    | Identified Risk                                                                                                                                                 | Probability Level | Rationale                                                                                                                                                                                                                                                                                    | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                        | Risk Level |
|-----|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1   | Geographic | The road network predominately Hwy 401 bisecting the town, is a contributor to emergency call volume due to motor vehicle collisions and vehicle fires          | Almost Certain    | <ul style="list-style-type: none"> <li>Over the period of January 2018 – December 2022 MFRS has responded to 1950 rescue calls of which 92.05% are related to vehicle collisions.</li> </ul>                                                                                                 | Moderate          | <ul style="list-style-type: none"> <li>Potential for risk to life safety of occupants of motor vehicles</li> <li>Potential risk for property loss</li> <li>Could pose a threat to small local business</li> <li>Could pose a threat to the quality of the environment</li> <li>Consequence level could be impacted by the magnitude of a hazard event</li> </ul> | High       |
| 2   | Geographic | Since provincial highways and rail lines are designated dangerous goods routes, traffic carrying various hazardous materials passes through the town regularly. | Possible          | <ul style="list-style-type: none"> <li>Guelph Junction Railway operate various lines running through the municipality, which includes farmland and over water surfaces. The containers transported include dangerous goods.</li> <li>Highways 401, 407 and 25 pass through Milton</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant loss of life</li> <li>Multiple property damage to significant portion of the town</li> <li>Long term disruption of farms, businesses, local employment, and tourism and/or Environmental damage that would result in evacuation of local residents, farms, and businesses</li> </ul>                          | Moderate   |

| No. | Profile                                        | Identified Risk                                                                                                                                                                                                                                                                                    | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                      | Risk Level |
|-----|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 3   | Building Stock and Past Loss and Event History | Group C residential occupancies represent 89.65% of the towns existing occupancies. Additionally, 83.51% of structure fires loss, 85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies. (January 1, 2018, to December 31, 2022) | Almost Certain    | <ul style="list-style-type: none"> <li>The majority of the town's existing property stock is comprised of Group C - Residential Occupancies (89.65%)</li> <li>83.51% of structure fires loss over the five-year period from January 1, 2018, to December 31, 2022, occurred within Group C - Residential Occupancies.</li> <li>85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies.</li> <li>In 10.83% of fires there was no smoke alarm present</li> <li>Incidents where a smoke alarm was present but failed to operate accounted for 13.33% which is higher than the provincial average</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Could pose a threat to small local businesses, and/or pose a threat to the quality of the environment</li> <li>Potential for vulnerable individuals including seniors and youth within Group C</li> <li>Potential for exposure risk depending on dwelling type and building age</li> </ul> | High       |

| No. | Profile        | Identified Risk                                                                                                                                                                                                                      | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                                        | Risk Level |
|-----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 4   | Building Stock | 8.51% (3631) of the building stock was constructed before 1975 preceding the adoption of the 1975 OBC and 16.51% (7046 properties) of the town's building stock was constructed before 1981, preceding the adoption of the 1981 OFC. | Likely            | <ul style="list-style-type: none"> <li>Approximately 8.51% of the town's building stock was built preceding the adoption of 1975 OBC</li> <li>Approximately 16.51% of the town's building stock was built preceding the adoption of 1981 OFC</li> <li>the Town of Milton reported that in 10.83% of fires responded to, there was no smoke alarm present</li> <li>incidents where a smoke alarm was present but failed to operate accounted for 13.33%,</li> <li>the status of smoke alarms could not be conclusively determined in 30.00% of the incidents responded to by MFRS which is 4.71% higher than that of the province.</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Could pose a threat to small local businesses, and/or pose a threat to the quality of the environment</li> <li>Occupants could be vulnerable individuals including seniors and youth within Group C – Residential</li> </ul> | Moderate   |

| No. | Profile                                    | Identified Risk                                                                                                                                   | Probability Level | Rationale                                                                                                                                                                                                                                                                                 | Consequence Level | Rationale                                                                                                                                                                                                                                                                        | Risk Level |
|-----|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 5   | Building Stock & Past Loss & Event History | There are 70 properties within Milton that have been identified as having a potentially high fuel load and therefore an increased high fire risk. | Likely            | <ul style="list-style-type: none"> <li>There are 690 industrial occupancies (1.65% of property stock) - several with known high fuel load concerns</li> <li>There have been 23 industrial fires over the past 5 years (12.57% of all fires) resulting in over \$750k fire loss</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Prolonged disruptions to supply chains</li> </ul> | High       |
| 6   | Building Stock                             | According to MPAC Data, there are 44 buildings over 100,000 square feet and two buildings over 1,000,000 square feet                              | Possible          | <ul style="list-style-type: none"> <li>There are 690 industrial occupancies (1.65% of property stock) - several with known high fuel load concerns</li> <li>There have been 23 industrial fires over the past 5 years (12.57% of all fires) resulting in over \$750k fire loss</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Prolonged disruptions to supply chains</li> </ul> | Moderate   |

| No. | Profile        | Identified Risk                                                                                                                                                                                            | Probability Level | Rationale                                                                                                                                                                                | Consequence Level | Rationale                                                                                                                                                                                                                                                                        | Risk Level |
|-----|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 7   | Building Stock | There are 78 Properties identified by the Town as Heritage Properties. Historic areas can present a high fire risk due to their age and the materials used to construct the buildings, as well as exposure | Likely            | <ul style="list-style-type: none"> <li>78 Properties identified by the Town as Heritage Properties.</li> <li>These building are built prior to the adoption of the OBC or OFC</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Loss is permanent – cannot be replaced</li> </ul> | Moderate   |
| 8   | Building Stock | The Town of Milton currently has 23 occupancies that have been identified as a potential vulnerable occupancy.                                                                                             | Possible          | <ul style="list-style-type: none"> <li>23 occupancies that have been identified as a potential vulnerable occupancy</li> <li>Occupants may have poorer fire safety habits</li> </ul>     | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage</li> </ul>                                                       | Moderate   |

| No. | Profile        | Identified Risk                                                                                                                                                                                                                                     | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                             | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                  | Risk Level |
|-----|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 9   | Building Stock | The permitting of up to 3 additional dwelling units per residential property allows for increased occupants and increased risk in residential buildings. Additionally, MFRS doesn't have access to identifying these building prior to an incident. | Likely            | <ul style="list-style-type: none"> <li>By-laws allow for up to 3 additional dwelling units within the same residential building</li> <li>The Town does not currently have a tool to identify these ADU's</li> <li>There are potentially over 1400 applications for permits with the building division for the construction of these ADU's.</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for vulnerable individuals including seniors and youth within Group C buildings.</li> <li>Potential for exposure risk depending on dwelling type and building age</li> </ul> | High       |

| No. | Profile     | Identified Risk                                                                                                                                                                                                                    | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 10  | Demographic | The percentage of the population aged 65 years and older in Milton is 10.47%. Additionally, 9.28% of the town's population falls between the ages of 55 and 64, gradually aging into the senior demographic of 65 years and older. | Almost Certain    | <ul style="list-style-type: none"> <li>Canada's aging population has been recognized as one of the most significant demographic trends.</li> <li>Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the province based on residential fire death rate (fire deaths per million of population).</li> <li>There are 4 registered long-term care/retirement homes in Milton with capacity for approximately 570 people</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | High       |
| 11  | Demographic | In the Town of Milton, the proportion of newcomers is 9.33% higher when compared to that of the province. (39.28% compared to Ontario at 29.98%)                                                                                   | Likely            | <ul style="list-style-type: none"> <li>The predominant languages other than English spoken by Milton residents are Urdu, Arabic, Spanish, Punjabi, and Tagalog</li> </ul>                                                                                                                                                                                                                                                                                                            | Moderate          | <ul style="list-style-type: none"> <li>Cultural background and language considerations remain crucial factors for fire service providers when developing and delivering fire prevention and public education programs.</li> </ul>                                                                                                                 | Moderate   |

| No. | Profile                     | Identified Risk                                                                                                                                                                                                                                        | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                       | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 12  | Past Loss and Event History | For the period from January 1, 2018, to December 31, 2022, the Town of Milton experienced a total of 183 structure fires with 67.21% (123) of these fires occurring in Group C-Residential Occupancies, contributing to 83.51% of the total fire loss. | Almost Certain    | <ul style="list-style-type: none"> <li>Fires were responsible for 77.78% of the total loss for this period.</li> <li>85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies.</li> <li>Milton has a 16.07% higher fire loss in group C occupancies than the province</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | High       |

| No. | Profile                     | Identified Risk                                                                                                                                                                                                                                                                                               | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                      | Risk Level |
|-----|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 13  | Past Loss and Event History | For the period from January 1, 2018, to December 31, 2022, group F- Industrial occupancies accounted for 12.57% of the structure fires and 3.67% of the total structure fire loss but only represents 1.65% of the building stock. Milton had a 5.30% higher incidence of industrial fires than the province. | Likely            | <ul style="list-style-type: none"> <li>Group F industrial accounts for only 1.65% of the property stock but 12.57 % of the structure fires and 3.67% of fire loss.</li> <li>Milton had a 5.30% higher incidence of industrial fires than the province.</li> <li>There have been 23 industrial fires over the past 5 years resulting in over \$750k fire loss</li> <li>There are 85 properties within Milton that have been identified as having a potentially high fuel load and therefore an increased high fire risk.</li> <li>14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage, significant threat to businesses and local economy – depending on type of business</li> </ul> | High       |

| No. | Profile                     | Identified Risk                                                                                                                                                  | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                     | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 14  | Past Loss and Event History | Compared to the province, Milton exhibited a 6.65% lower incidence of fires in Group C-Residential Occupancies but a 16.07% higher share of structure fire loss. | Likely            | <ul style="list-style-type: none"> <li>The town's percentage of fire loss 16.07% higher than the province</li> <li>incidents where a smoke alarm was present but failed to operate accounted for 13.33%,</li> <li>the status of smoke alarms could not be conclusively determined in 30.00% of the incidents responded to by MFRS which is 4.71% higher than that of the province.</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | Moderate   |
| 15  | Past Loss and Event History | In the Town of Milton 14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province                                | Likely            | <ul style="list-style-type: none"> <li>Group F industrial accounts for only 1.65% of the property stock but 12.57 % of the structure fires and 3.67% of fire loss.</li> <li>Milton had a 5.30% higher incidence of industrial fires than the province.</li> </ul>                                                                                                                             | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage, significant threat to businesses and local economy – depending on type of business</li> </ul>                                    | High       |

Table 2: Summary of Key Findings

| No. | Profile                 | Key Finding                                                                                                                                                                                                                                                                                                                               |
|-----|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Geographic              | Large areas of agricultural land and green spaces throughout the municipality face an increased risk of grass, field, and wooded area fires, particularly during droughts and dry conditions typically experienced in the summer months. Potential for increased risk for wildland-urban interface fires should continue to be monitored. |
| 2   | Geographic              | Waterfront activities heighten the risk of incidents both on the water and along the shorelines. MFRS reported a total of 3 water and/or ice rescues between January 2018 and December 2022.                                                                                                                                              |
| 3   | Geographic              | Fire suppression services in rural areas can experience longer response times due to the distance from service locations.                                                                                                                                                                                                                 |
| 4   | Geographic              | There are risks associated with potential interactions between rail traffic and vehicular or pedestrian traffic within the town.                                                                                                                                                                                                          |
| 5   | Geographic              | Grade-level rail crossings may act as physical barriers within the town's road network, potentially leading to delays in emergency response times.                                                                                                                                                                                        |
| 6   | Geographic              | The potential of a new intermodal rail facility in the south area of the town will bring increased rail traffic, rail storage and the potential for increased hazards.                                                                                                                                                                    |
| 7   | Building Stock          | The Town of Milton currently has 24 identified high-rise buildings, with 36 identified as under-construction or proposed for development. MFRS must continue to monitor increased risks.                                                                                                                                                  |
| 8   | Critical Infrastructure | Approximately 1,795 emergency calls between 2018 and 2022 were motor vehicle-related incidents. This represents 92.05% of all rescue calls and about 18.40% of all calls responded to by MFRS during that period.                                                                                                                         |
| 9   | Critical Infrastructure | The most significant risk related to utilities involves fallen hydro lines. Between 2018 and 2022, MFRS responded to 102 incidents involving fallen hydro lines, accounting for 15.86% of all public hazard calls.                                                                                                                        |
| 10  | Demographic             | The youngest demographic, individuals aged 14 years and under, makes up 22.20% of the town's population, which is higher than the provincial figure of 15.98%.                                                                                                                                                                            |
| 11  | Demographic             | The population aged 35-49 represents 23.99% of the town's total population, 4.78% higher than the provincial average.                                                                                                                                                                                                                     |

| No. | Profile                   | Key Finding                                                                                                                                                                                                                                                                                                                   |
|-----|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12  | Demographic               | The Town of Milton has a 13.78% higher proportion of households with two or more occupants compared to the provincial average.                                                                                                                                                                                                |
| 13  | Demographic               | 47.83% of Milton residents commute to other locations within Ontario, a significantly higher proportion than the provincial rate of 23.50%.                                                                                                                                                                                   |
| 14  | Hazard                    | The city's 2023 Hazard Identification and Risk Assessment (HIRA) highlights hazards that could potentially impact the ability of MFRS to effectively deliver fire protection services.                                                                                                                                        |
| 15  | Economic                  | There are 13 major employers identified, each with more than 200 employees, that significantly contribute to the economic vitality of the community.                                                                                                                                                                          |
| 16  | Economic                  | The number of new businesses increased by 17% in 2023, alongside over 3.8 million square feet of expansion in Industrial, Commercial, and Institutional (ICI) space. Additionally, 9,827,899 square feet of industrial development has been either newly constructed or proposed for the Derry Green Corporate Business Park. |
| 17  | Past Loss & Event History | Over the five-year period from January 1, 2018, to December 31, 2022, 10.38% of fires responded to were caused by design, construction, or maintenance deficiencies, which is 4.03% higher than the provincial average.                                                                                                       |
| 18  | Past Loss & Event History | Over a five-year period from January 1, 2018, to December 31, 2022, 10.83% of fires in Milton occurred in buildings where no smoke alarm was present, which is lower than the provincial average of 17.35%.                                                                                                                   |
| 19  | Past Loss & Event History | In 30.00% of incidents over the five-year period, the status of smoke alarms could not be conclusively determined, which is 4.71% higher than the provincial average.                                                                                                                                                         |
| 20  | Past Loss & Event History | From January 1, 2018, to December 31, 2022, total emergency call volume in Milton increased by 27.90%.                                                                                                                                                                                                                        |
| 21  | Past Loss & Event History | From January 1, 2018, to December 31, 2022, 602 fires were reported, representing 6.17% of total calls. This is higher than the provincial average of 2.10%.                                                                                                                                                                  |
| 22  | Past Loss & Event History | From January 1, 2018, to December 31, 2022, rescue calls accounted for 19.99% of all calls, with 92.05% of those attributed to motor vehicle collisions.                                                                                                                                                                      |

## Section 1

### Introduction

#### 1.1 Background

This Community Risk Assessment (CRA) has been developed for the Town of Milton to comply with **Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18)**. O. Reg. 378/18 was made under the authority of the Fire Protection and Prevention Act, 1997 (FPPA) and came into effect on July 1, 2019.

It requires all municipalities in Ontario to develop a CRA prior to July 1st, 2024. This regulation also requires municipalities to **“use its community risk assessment to inform decisions about the provisions of fire protection services”**<sup>2</sup>. This CRA should be utilized to inform the Town to assist in the development of fire protection services. This CRA is formatted to become a stand-alone document in the future to assist the municipality in sustaining compliance with O. Reg. 378/18 that includes conducting a review of the CRA when necessary, and annually.

In addition to this CRA, the FPPA requires that municipalities must provide fire protection programs that **“must include public education with respect to fire safety and certain components of fire prevention and provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances”**<sup>3</sup>. The recent introduction of O. Reg. 378/18 is now a core component of developing an in-depth analysis of a community’s fire related risks through a comprehensive analysis of nine mandatory profiles.

The FPPA also assigns duties to the Office of the Fire Marshal (OFM) to **“advise municipalities in the interpretation and enforcement of this Act and the regulations”**<sup>4</sup>. The OFM has developed Technical Guideline-02-2019 (TG-02-2019) to assist municipalities and fire departments in the process to develop a CRA and to utilize the completed CRA to inform the municipality’s decisions about complying with the FPPA.

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<sup>2</sup> (Ontario Regulation 378/18: Community Risk Assessments, Mandatory Use, Section 1 (b), 2017)

<sup>3</sup> (Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, 2024, pp. Part II Responsibility for Fire Protection Services, Section 2.1 (a) (b))

<sup>4</sup> (Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, 2024, pp. Part III Fire Marshal, Section 9.2 (b))

At a minimum, the regulation outlines a standard set of information profiles that must be considered when conducting a community risk assessment. The Guideline provides suggestions as to how to record and analyze the data/information and provides sample worksheets to assist municipalities. A leading practice in Ontario would see the Town of Milton's Community Risk Assessment report maintained as a living document by the Milton Fire Services. This would include regular (e.g. annual) review and updates to the CRA's data and information.

The methodology and analysis utilized to develop this CRA has been directly informed by TG-02-2019 that recognizes the value of understanding the fire risk within a community, and the importance of developing fire risk reduction and mitigation strategies in addition to providing fire suppression services.

## 1.2 Purpose

The primary purpose of this CRA is twofold:

1. To develop a Community Risk Assessment for the Town of Milton to identify the fire related risks within the community and comply with O. Reg. 378/18; and
2. To utilize the risk conclusions of the Community Risk Assessment to inform a comprehensive analysis of the existing, and future fire protection needs of the Town of Milton.

## 1.3 Methodology

In addition to TG-02-2019, the methodology applied to develop this CRA has been informed by other current industry standards and best practices. These include:

1. OFM Comprehensive Fire Safety Effectiveness Model: Fire Risk Sub-Model
2. OFM Public Fire Safety Guideline (PFSG) 04-40A-03: Simplified Risk Assessment
3. NFPA 1300, Standard on Community Risk Assessment and Community Risk Reduction Plan Development (2020 Edition)
4. NFPA 1730, Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition)
5. Vision 20/20 Community Risk Assessment: A Guide for Conducting a Community Risk Assessment (Version 1.5, 2016)
6. Vision 20/20 Community Risk Reduction Planning: A Guide for Developing a Community Risk Reduction Plan

As required by O. Reg. 378/18, this CRA includes a comprehensive analysis of the nine mandatory profiles including:

- i. Geographic Profile
- ii. Building Stock Profile
- iii. Critical Infrastructure Profile
- iv. Demographic Profile
- v. Public Safety and Response Profile
- vi. Community Services Profile
- vii. Hazard Profile
- viii. Economic Profile
- ix. Past Loss and Event History Profile

Within each of the nine profiles, there are several sub-topics examined. These sub-topics are illustrated in Figure 1. These profiles are based on an analysis of several sources of information, including data provided by the Town of Milton, Milton Fire & Rescue Services (MFRS), Statistics Canada, the OFM, and desktop research.

The mandatory profile analyses result in a series of risk related conclusions that will be used to inform service levels or other strategies in alignment with the three lines of defense through a risk treatment process. These are referred to as a ‘**key finding**’ or an ‘**identified risk**.’ Those findings referred to as an ‘Identified Risk’ are taken through a risk assignment process to assist with risk prioritization as referred to within TG-02- 2019. In specific circumstances, being those that involve additional jurisdictional or legislative considerations, a risk-related conclusion is referred to as a Special Consideration. All risk-related conclusions will be taken through a risk treatment process and aligned with the three lines of defense to inform decision making. Figure 2 illustrates the risk treatment process.

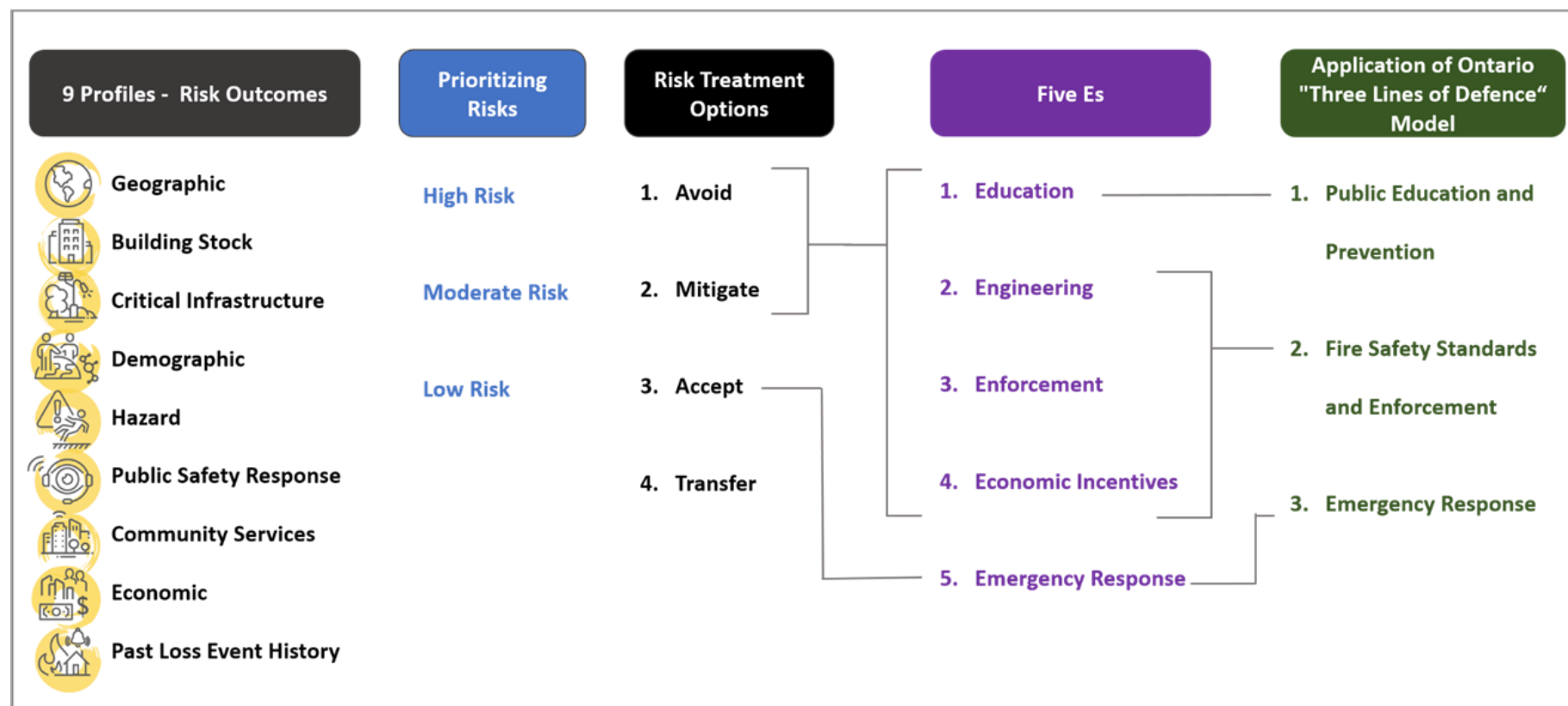
**Identified Risks:** These are hazards or risks that **currently** exist within a community and could potentially be worsened in the event of an emergency, leading to a detrimental impact on the community, the Fire Department or both. Risks may arise from specific hazards identified in individual profiles or from compounded risks that span multiple profiles. The risk level is determined by evaluating the probability and potential consequences of each risk, which in turn guides how the Fire Department resources are allocated.

**Key Findings:** These may be noted as strengths in the community’s current response model and/or future trends or developments that should be closely monitored. While these concerns may not currently qualify as identified risks requiring immediate action, they are significant enough to be flagged, monitored, and reviewed as part of the annual CRA update.

Figure 1: Community Risk Assessment Profiles and Sub-topics

| COMMUNITY RISK ASSESSMENT PROFILES AND SUB-TOPICS                                                                                                                                            |                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                          |                                                                                                    |                                                                                                        |                                                                                                               |                                                                                        |                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                             |                                                                                                                                                                                                                     |                                                                                                                                                                                                             |                                                                                                                                         |                  |                     |                            |     |                                                                                                                                                                        |
| Geographic                                                                                                                                                                                   | Building Stock                                                                                                                                                                                                                                                                                       | Critical Infrastructure                                                                                                                                                                                                                                                                      | Demographics                                                                                                                                                                                                             | Hazards                                                                                            | Public Safety Response                                                                                 | Community Services                                                                                            | Economic                                                                               | Past Loss & Event History                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>Road network</li> <li>Bridges</li> <li>Railways</li> <li>Airport</li> <li>Natural features and landforms</li> <li>Wildland Urban Interface</li> </ul> | <ul style="list-style-type: none"> <li>Property stock by occupancy type</li> <li>Building age, construction</li> <li>Building density and exposure</li> <li>Building height and area</li> <li>Potential high fire risk occupancies</li> <li>Historically or culturally important features</li> </ul> | <ul style="list-style-type: none"> <li>Food and water</li> <li>Oil and natural gas</li> <li>Electricity</li> <li>Telecommunications</li> <li>Public safety and security</li> <li>Continuity of government</li> <li>Transportation</li> <li>Health</li> <li>Financial institutions</li> </ul> | <ul style="list-style-type: none"> <li>Population and dispersion</li> <li>Age</li> <li>Gender</li> <li>Socioeconomic circumstances</li> <li>Ethnic and cultural considerations</li> <li>Transient populations</li> </ul> | <ul style="list-style-type: none"> <li>Hazard Identification and Risk Assessment (HIRA)</li> </ul> | <ul style="list-style-type: none"> <li>Public safety response agencies within the community</li> </ul> | <ul style="list-style-type: none"> <li>Community service agencies, organizations, and associations</li> </ul> | <ul style="list-style-type: none"> <li>Major employers and economic sectors</li> </ul> | <ul style="list-style-type: none"> <li>Overall fire loss</li> <li>Fire loss by occupancy type</li> <li>Civilian fire deaths and injuries</li> <li>Fire cause and ignition</li> <li>Smoke alarm status</li> <li>Call volume</li> <li>Call types</li> </ul> |

Figure 2: Risk Treatment Process



The analysis presented within this CRA has been informed by a wide range of data sources. Where applicable, all numerical data has been rounded to the nearest 1/100 (hundredth) decimal point to provide consistency in the analysis. As a result, the numerical totals presented within each analysis, although stated as reflecting 100%, may show a minor variance based on the use of only the nearest 1/100 (hundredth) decimal points.

## Section 2

### Geographic Profile

The geographic profile of a community is an assessment of the physical features of a community, such as highways, waterways, railways, bridges, landforms, quarries, and wildland-urban interfaces, that may present inherent risks to the community and affect emergency services' access to incidents and response capabilities. This section contains a detailed analysis of these geographical features for the Town of Milton to assist in determining the type and level of fire protection services needed for the community and any potential impacts these features may pose on service delivery.

#### 2.1 Geographic Overview

Milton, Ontario, is a rapidly growing town in Southern Area, part of the Halton Region and the Greater Toronto Area (GTA). Covering approximately 365 km<sup>2</sup>, Milton had a population of 143,101 as per the 2021 Town data projections, resulting in a population density of about 392 people per square kilometer. The town is well-connected by major highways, including Highway 401, which runs east-west through Milton, Highway 407 to the north, and Highway 25 running north-south. Additionally, Milton is served by the Milton line of the GO Transit system, providing convenient commuter train and bus services to Toronto and other areas<sup>5</sup>.

Milton is comprised of 25 distinct neighbourhoods, ranging from urban centres to rural and industrial areas. The town is also situated on the Niagara Escarpment, a UNESCO World Biosphere Reserve, offering rich biodiversity and recreational opportunities such as the Bruce Trail.<sup>6</sup>

Milton is about 40 kilometers west of Toronto, 32 kilometers west of Mississauga, 27 kilometers southeast of Guelph, and 61 kilometers east of Kitchener. This strategic location provides Milton residents with convenient access to a wide range of employment, educational, and recreational opportunities in the Greater Toronto and Hamilton Area<sup>7</sup>.

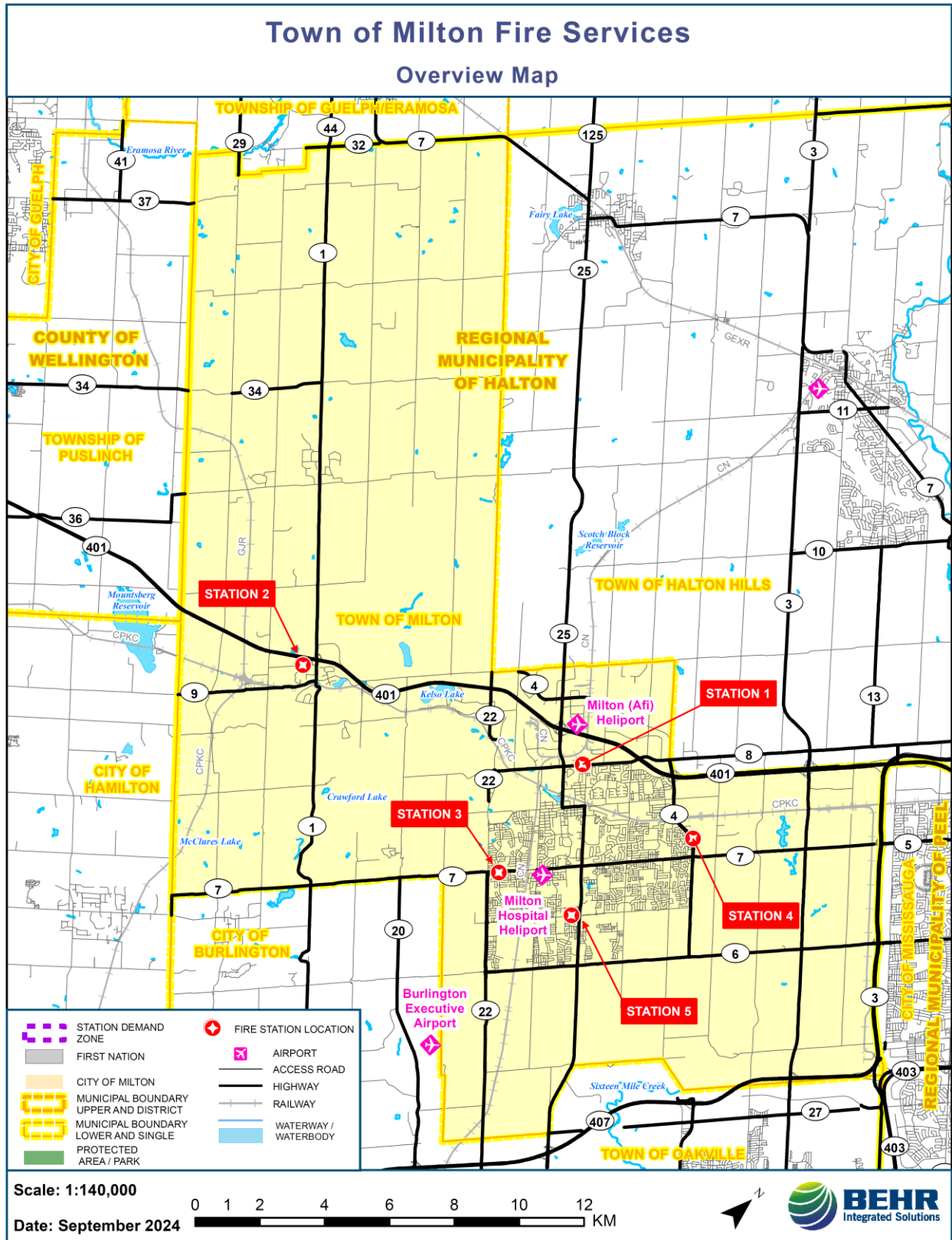
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<sup>5</sup> (Wikipedia - Town of Milton, 2024)

<sup>6</sup> (Wikipedia - Town of Milton, 2024)

<sup>7</sup> (Wikipedia - Town of Milton, 2024)

Map 1: Town of Milton Overview Map



### 2.1.1 Road Network

Road networks and transportation systems provide fire services with access throughout a community when responding to emergency calls. The road network is how fire apparatus travel through a municipality; therefore, it is valuable to consider areas where there may be a lack of connectivity due to road network design, as well as other natural barriers (e.g. rivers, lakes, etc.) or human-made barriers (e.g. rail lines, traffic calming measures, etc.). Road networks can also contribute to vehicle congestion, causing delays in emergency response travel times. Where possible, the town's transportation planning processes should include MFRS as a stakeholder to provide consideration for emergency services' needs and challenges relating to the road network, traffic congestion, and traffic calming and related topics.

Roads are also important from a risk and emergency response perspective because motor vehicle-related incidents are often a common source of emergency call volume within a municipality.

The Town of Milton oversees a road network totaling 599.30 center-line kilometers, valued at \$1,843,619,407, with high-class bituminous (HCB) roads covering 412.10 kilometres and low-class bituminous (LCB) roads covering 187.30 kilometres.

According to the town's Asset Management Plan (2024)<sup>8</sup>, the overall condition of Milton's transportation assets is good, with more than 96% in fair or better condition based on field inspections and age assessments. However, less than 4% of the assets, with a replacement cost of \$75.1 million, are in poor to very poor condition and may require replacement in the short term. The Town of Milton's approach to asset lifecycle management is comprehensive. Maintenance, repair, and replacement activities are guided by technical external condition assessment surveys, asset age, and staff judgment through routine inspections and monitoring. Risk assessments and other contextual information is used to select the right lifecycle activity at the right time.

The Ontario Ministry of Transportation (MTO) oversees the following highways:

- **Highway 401:** Runs east-west through Milton
- **Highway 407:** Runs along the northeast edge of Milton and is part of the 407 Express Toll Route (ETR).
- **Highway 25:** Runs north-south through Milton

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<sup>8</sup> (Asset Management Plan, 2024)

The network of essential highways links the town to neighboring regions, Mississauga, Kitchener, Guelph, Hamilton, and Toronto. Highway 401 serves as a primary route, supported by highway 407. Since provincial highways are designated dangerous goods routes, traffic carrying various hazardous materials passes through the town regularly, highlighting the importance of safe transportation.

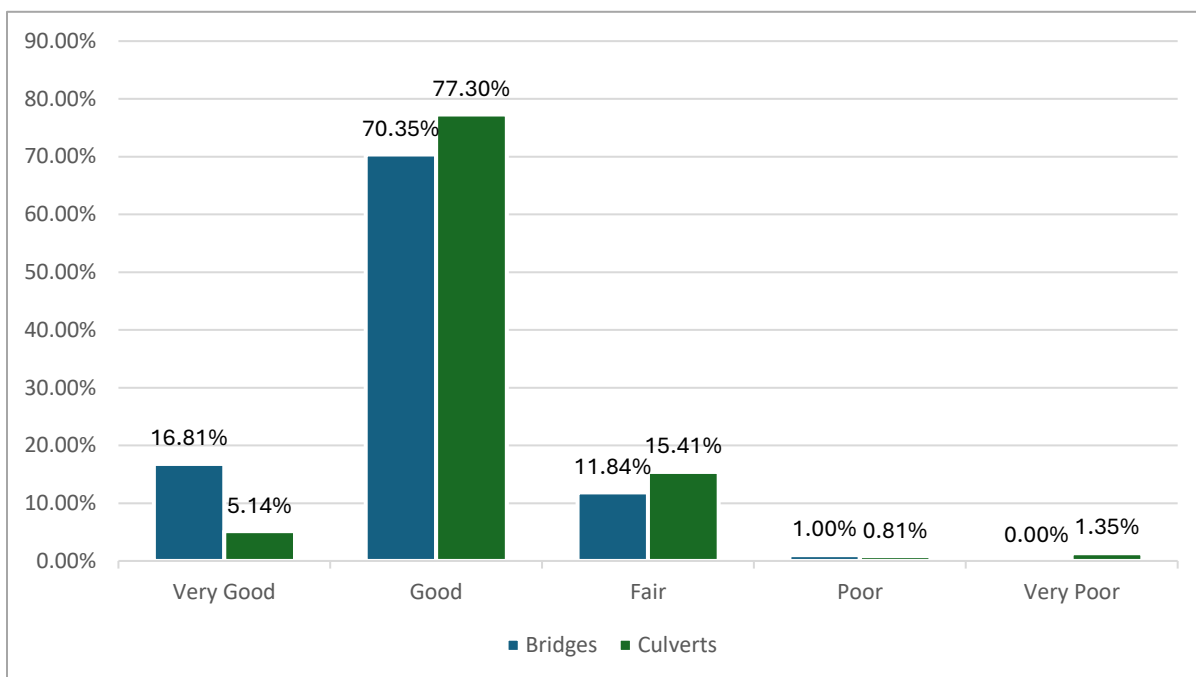
Although unlikely, an incident involving a dangerous goods release is possible along these highways. Incidents involving roads and highways, as well as incidents involving dangerous goods was listed as a moderate threat on the town's 2020 Hazard Identification and Risk Assessment.

### **2.1.2 Bridges and Culverts**

Bridges must be considered when conducting a CRA, as they can create physical barriers to emergency responses and negatively impact response times. An apparatus may face restrictions from crossing, such as load limitations, or roadway connectivity may be disrupted if a bridge is out of service for maintenance or repairs. Incidents occurring on a bridge pose increased risks, including spills, congestion, and difficulty accessing the scene. Such incidents may also necessitate specialized skills and equipment for slope rope rescue operations.

According to the town's Asset Management Plan (2024), there are 46 bridges (excluding pedestrian bridges) and 46 culverts. Among the bridges, 99% are considered to be in fair or better condition, while 1% are in poor condition. As for the culvert system, 97.84% are considered to be in fair or better condition, and 2.16% are in poor or very poor condition. Figure 3 illustrates the bridge and culvert condition.

Figure 3: Condition of Bridges & Culverts



### 2.1.3 Rail

At-grade rail crossings, where a road intersects a rail line at the same level, can create delays in emergency response by blocking roadway access and posing a risk of dangerous collisions with motor vehicles. In addition, the physical barriers formed by rail infrastructure, such as rail yards, tracks, grade separations, and level crossings, can significantly affect emergency services' travel and response times across a community. The frequency of train traffic and the nature of the goods transported through the area also contribute varying levels of risk, including the potential for derailments and the release of hazardous materials.

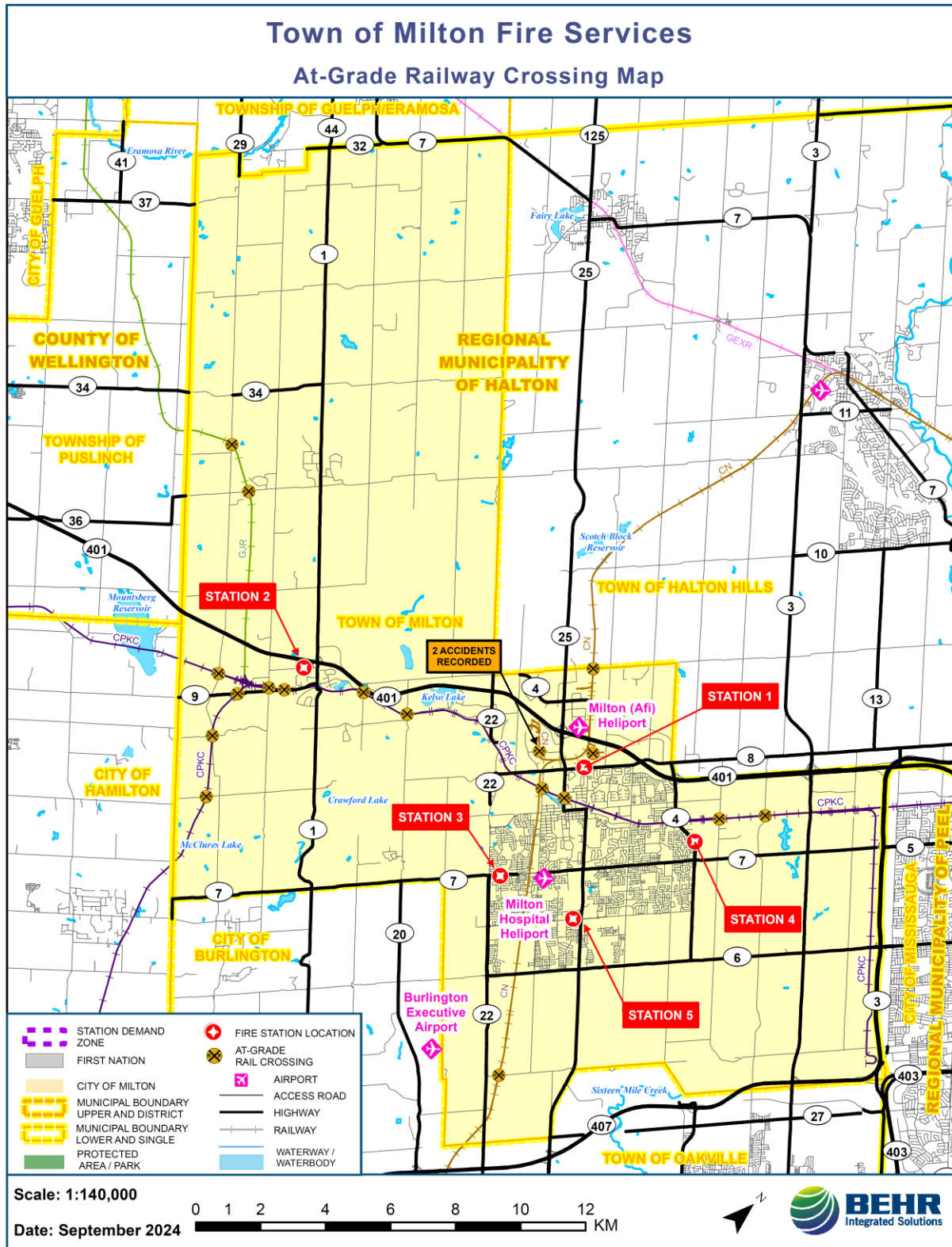
Of the 19 crossings in the community, 12 are equipped with flashing lights, bells, and gates. Guelph Junction Railway has 1 passive crossing, and CN has 2 passive crossings, one of which has recorded 2 accidents (with no fatalities or serious injuries) in the past five years. The remaining 4 crossings have flashing lights and bells but no gates.

**The Guelph Junction Railway**, owned by the City of Guelph and operated by the Goderich-Exeter Railway, operates 38.6 km of track that runs from the Guelph Junction, near Campbellville, ON, extending northwest to Guelph's northwest industrial park. Passing through the western region of Milton, it traverses primarily rural farming lands, intersecting with the local road network at various level crossings. This railway is used to transport industrial products such as grain, plastics and lumber and interconnects with the Canadian Pacific and Canadian National railways.

**The Canadian Pacific Railway (CP)** operates freight services on the tracks that pass east-west through Milton. Their operations include transporting bulk commodities such as grain, coal, and potash, as well as intermodal freight which involves the movement of containers that can be transferred between ships, trucks, and trains.

**The Canadian National Railway (CN)** primarily operates on the tracks that run north-south through Milton, although they occasionally have trackage rights on the CP lines. They transport a wide range of products including automotive parts, chemicals, and consumer goods. There are plans to build an intermodal facility on rural lands in the south of the Town. This area is bordered by Tremaine Rd, Britannia Road, and Lower Base Line. The intermodal would be used to transfer freight between road transportation and the rail network.

Map 2: At Level Railway Crossings



## 2.2 Waterways and Marinas

Milton is home to several significant waterways, including Sixteen Mile Creek, Bronte Creek, the reservoir in Kelso Conservation Area, and Mill Pond. These bodies of water provide important ecological habitats and recreational opportunities. However, they also pose hazards such as seasonal flooding during heavy rainfall or rapid snowmelt, ice jams in winter, and erosion of creek banks during high flow events, necessitating swift evacuations and rescue responses. Responders require specialized technical rescue training and equipment to handle emergencies, especially in water bodies used for recreational activities, which see heightened activity during the summer season. Regular community education and preparedness programs are essential to ensure residents are aware of the risks and know how to respond during emergencies.

Waterfront activities increase the risk of an incident both on the water and along the shorelines. MFRS reported a total of 3 water and/or ice rescues over the period of January 2018 – December 2022.

## 2.3 Rural landscape and Wildfire Interface

The rural landscape of the Town of Milton is predominantly characterized by agricultural farmland, natural brush areas, and scattered residential properties. These vast open spaces are particularly vulnerable to grass and brush fires, especially during the warmer and drier summer months. The combination of dried-out vegetation and wind conditions can lead to rapidly spreading fires, which pose significant risks to crops and property.

There are a number of small residential areas mixed within the rural areas of the town. These residential pockets present a wildland-Urban interface risk in the event of a wildland fire, including forest, grass, or brush fires. These are located in the villages of Campbellville, Brookville, and Darbyville.

The varied terrain, including forests, hills, and water bodies, presents challenges for firefighting, often requiring specialized vehicles like ATVs to access difficult areas. Infrastructure such as rail tracks and limited roadways further complicates fire response, as rail tracks can spark fires and limited road access can delay firefighting efforts. Residential properties in these areas often rely on wells and non-municipal water sources, impacting firefighting capabilities and necessitating additional safety measures like firebreaks and controlled burns.

## 2.4 Geographic Profile – Identified Risks and Key Findings

Table 3: Geographic Profile - Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Risk               | The road network, particularly Highway 401 bisecting the town, contributes to emergency call volume due to motor vehicle collisions and vehicle fires.                                                                                                                                                                                    |
| Identified Risk               | Since provincial highways and rail lines are designated dangerous goods routes, traffic carrying various hazardous materials regularly passes through the town.                                                                                                                                                                           |
| Key Finding                   | Large areas of agricultural land and green spaces throughout the municipality face an increased risk of grass, field, and wooded area fires, particularly during droughts and dry conditions typically experienced in the summer months. Potential for increased risk for wildland-urban interface fires should continue to be monitored. |
| Key Finding                   | Waterfront activities heighten the risk of incidents both on the water and along the shorelines. MFRS reported a total of 3 water and/or ice rescues between January 2018 and December 2022.                                                                                                                                              |
| Key Finding                   | Fire suppression services in rural areas can experience longer response times due to the distance from service locations.                                                                                                                                                                                                                 |
| Key Finding                   | There are risks associated with potential interactions between rail traffic and vehicular or pedestrian traffic within the town.                                                                                                                                                                                                          |
| Key Finding                   | Grade-level rail crossings may act as physical barriers within the town's road network, potentially leading to delays in emergency response times.                                                                                                                                                                                        |
| Key Finding                   | The potential of a new intermodal rail facility in the south area of the town will bring increased rail traffic, rail storage and the potential for increased hazards.                                                                                                                                                                    |

## Section 3

### Building Stock Profile

As referenced in **O. Reg. 378/18**, the building stock profile assessment includes an analysis of the types and uses of the building stock within the town. Important considerations include the number, type, and use of buildings, as well as any building-related risks known to the fire service. There are potential fire risks associated with different types or uses of buildings, depending on the presence or absence of fire safety systems and equipment at the time of construction and maintenance thereafter. This section examines these building characteristics within the town.

#### 3.1 Ontario Building Code Occupancy Classifications

OFM TG-02-2019 encourages fire services to consider the potential fire-related risks associated with different building occupancy types and uses. This involves assessing the prevalence of each occupancy classification within a community and the presence of fire and life safety systems and equipment. The Ontario Building Code (OBC) categorizes buildings by major occupancy classification, providing a recognized definition and baseline for developing a community risk assessment, as outlined in TG-02-2019.

The OBC consists of six major building occupancy classifications (groups), further defined by division within each group. The OBC major classification groups and divisions are detailed in Table 4.

Table 4: OBC Major Occupancy Classifications

| Group | Division      | Description of Major Occupancies                                                    |
|-------|---------------|-------------------------------------------------------------------------------------|
| A     | 1             | Assembly occupancies intended for the production and viewing of the performing arts |
| A     | 2             | Assembly occupancies not elsewhere classified in Group A                            |
| A     | 3             | Assembly occupancies of the arena type                                              |
| A     | 4             | Assembly occupancies in which occupants are gathered in the open air                |
| B     | 1             | Detention occupancies                                                               |
| B     | 2             | Care and treatment occupancies                                                      |
| B     | 3             | Care occupancies                                                                    |
| C     | All divisions | Residential occupancies                                                             |
| D     | All divisions | Business and personal services occupancies                                          |
| E     | All divisions | Mercantile occupancies                                                              |
| F     | 1             | High-hazard industrial occupancies                                                  |
| F     | 2             | Medium-hazard industrial occupancies                                                |
| F     | 3             | Low-hazard industrial occupancies                                                   |

Table Source: Ontario Building Code<sup>9</sup>

### 3.2 OFM Fire Risk Model Occupancy Classification

The Fire Risk Sub-model developed by the OFM utilizes major group classifications (i.e., Group A, B, C, D, E, F) without the detailed division classifications found in the OBC. This approach enables comparative assessment of buildings within a community by major occupancy groups, ensuring consistent and recognized definitions for each major occupancy type. Moreover, it allows for further analysis of specific occupancy groups. Occupancies within a group can be individually assessed, subject to any site-specific hazards or concerns, and included within the broader scope of the CRA as needed.

The OFM Fire Risk Sub-Model OBC classifications, definitions, associated fire-related risks, and potential proactive measures to mitigate risk within these occupancy types are presented in Table 5.

<sup>9</sup> (Ontario Ministry of Municipal Affairs and Housing, 2017)

Table 5: OFM Fire Risk Sub-Model Major Building Classifications

| OBC<br>Occupancy<br>Classification | OFM Fire Risk Sub-<br>Model Major Building<br>Classifications | OFM Definitions                                                                                                                                                                                                     | OFM Fire Related Risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Proactive Measures for Reducing<br>Risk                                                                                                                                                                                                                            |
|------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group A                            | Assembly<br>Occupancies                                       | An assembly occupancy is defined as one that is used by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes or for the consumption of food or drink. | Assembly buildings are often occupied by a large number of people and may contain high quantities of combustible furnishings and decorations. Occupants are generally unfamiliar with the building's exit locations and may not know how to react in the event of an emergency. Low light conditions are inherent to some of these occupancies and can contribute to occupant confusion during an evacuation. Numerous examples exist of disastrous events that have occurred throughout the world, resulting in multiple fire fatalities in these occupancies. Therefore, these facilities warrant special attention. Accordingly, it is paramount to ensure that maximum occupant load limits are not exceeded, detection is available, an approved fire safety plan is in place and adequate unobstructed exits/means of egress are readily available. | <ul style="list-style-type: none"> <li>• Regular fire prevention inspection cycles</li> <li>• Automatic fire detection and monitoring systems</li> <li>• Approved fire safety plan and staff training</li> <li>• Pre-planning by fire suppression staff</li> </ul> |

| OBC<br>Occupancy<br>Classification | OFM Fire Risk Sub-<br>Model Major Building<br>Classifications | OFM Definitions                                                                                                                                                                                                                                                                                                                 | OFM Fire Related Risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Proactive Measures for Reducing<br>Risk                                                                                                                                                                                                                                                                                        |
|------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group B                            | Care or Detention<br>Occupancies                              | <p>A care or detention occupancy means the occupancy or use of a building or part thereof by persons who:</p> <ul style="list-style-type: none"> <li>• Are dependent on others to release security devices to permit egress.</li> <li>• Receive special care and treatment; or,</li> <li>• Receive supervisory care.</li> </ul> | <p>In addition to the presence of vulnerable occupants, these occupancies may contain quantities of various flammable/combustible liquids and gases, oxidizers and combustible furnishings that will impact the intensity of the fire if one should occur. The evacuation or relocation of patients, residents, or inmates to an area of refuge during an emergency poses additional challenges in these facilities. It is essential to ensure that properly trained staff is available and prepared to quickly respond according to the facility's approved fire safety plan.</p> | <ul style="list-style-type: none"> <li>• Regular fire prevention inspection cycles</li> <li>• Automatic fire detection and monitoring systems</li> <li>• Approved Fire Safety Plan and staff training</li> <li>• Pre-planning by fire suppression staff</li> </ul>                                                             |
| Group C                            | Residential<br>Occupancies                                    | <p>A residential occupancy is defined as one that is used by persons for whom sleeping accommodation is provided but who are not harboured or detained to receive medical care or treatment or are not involuntarily detained.</p>                                                                                              | <p>In Ontario, residential occupancies account for 70% of all structural fires and 90% of all fire deaths. Residential units that are located in multi-unit buildings, including secondary units in a house, pose additional risks due to egress and firefighting accessibility challenges.</p>                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Home smoke alarm programs</li> <li>• Public education programming including home escape planning.</li> <li>• Retro-fit and compliance inspection cycles for OFC compliance</li> <li>• Pre-planning by fire suppression staff</li> <li>• Fire Drills as required by the OFC</li> </ul> |

| OBC<br>Occupancy<br>Classification | OFM Fire Risk Sub-<br>Model Major Building<br>Classifications | OFM Definitions                                                                                                                                                               | OFM Fire Related Risks                                                                                                                                                                                                                                                                                                              | Proactive Measures for Reducing<br>Risk                                                                                                                                                                                                                                                                                                          |
|------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    |                                                               |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>High-rise, vulnerable occupancies under Group C may require increases to the effective response force to ensure effective suppression operations</li> </ul>                                                                                                                                               |
| Group D                            | Business & Personal Services                                  | A business and personal services occupancy is defined as one that is used for the transaction of business or the rendering or receiving of professional or personal services. | Many office buildings are occupied by a large number of people during business hours and contain high combustible content in the form of furnishings, paper, books, computers, and other office equipment/supplies. Those that are located in a high-rise building pose additional risks due to egress and firefighting challenges. | <ul style="list-style-type: none"> <li>Regular fire prevention inspection cycles to maintain OFC compliance.</li> <li>Targeted fire prevention inspections for OFC compliance</li> <li>Staff training in fire prevention and evacuation procedures</li> <li>Public education programs</li> <li>Pre-planning by fire suppression staff</li> </ul> |

| OBC<br>Occupancy<br>Classification | OFM Fire Risk Sub-<br>Model Major Building<br>Classifications | OFM Definitions                                                                                                             | OFM Fire Related Risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Proactive Measures for Reducing<br>Risk                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group E                            | Mercantile                                                    | A mercantile occupancy is defined as one that is used for the displaying or selling of retail goods, wares, or merchandise. | Larger mercantile occupancies such as department stores are generally occupied by a large number of people and contain high quantities of combustibles in the form of merchandise, furnishings, and decorations. Customers may be unfamiliar with the building's exit locations and not know how to react in the event of an emergency. Additional hazards will be present in "big box" type stores that sell and store large volumes of combustible materials in bulk. These stores generally have similar properties to industrial warehouses with the additional hazard of higher number of occupants. | <ul style="list-style-type: none"> <li>Regular fire prevention inspection cycles</li> <li>Automatic fire detection and monitoring systems</li> <li>Approved Fire Safety Plan and staff training</li> <li>Pre-planning by fire suppression staff</li> <li>Identified higher risk buildings may require increases to the effective response force to ensure effective suppression operations</li> </ul> |

| OBC<br>Occupancy<br>Classification | OFM Fire Risk Sub-<br>Model Major Building<br>Classifications | OFM Definitions                                                                                                                                                                                                                                                                                                                                                                             | OFM Fire Related Risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Proactive Measures for Reducing<br>Risk                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group F                            | High/Medium/Low<br>Hazard Industrial                          | <p>An industrial occupancy is defined as one for the assembling, fabricating, manufacturing, processing, repairing, or storing of goods and materials. This category is divided into:</p> <ul style="list-style-type: none"> <li>low hazard (F3)</li> <li>medium hazard (F2)</li> <li>high hazard (F1) based on its combustible content and the potential for rapid fire growth.</li> </ul> | <p>These occupancies constitute a special fire hazard due to high levels of combustible, flammable or explosive content and the possible presence of oxidizing chemicals and gases. Processing and other activities that involve various ignition sources often occur in these occupancies. The lack of security during non-operational hours also makes them susceptible to incendiary type fires. Industrial fires generally involve large quantities of combustible materials and potentially result in large financial losses (e.g. building, contents) and significant damage to the community's environment and economic well-being (e.g. loss of jobs).</p> | <ul style="list-style-type: none"> <li>Regular fire prevention inspection cycles</li> <li>Staff training in fire prevention and evacuation</li> <li>Public education</li> <li>Pre-planning by fire suppression staff</li> <li>Installation of early detection systems (e.g., fire alarm systems, heat detectors)</li> <li>Installation of automatic sprinkler systems</li> <li>Approved Fire Safety Plans</li> <li>Preplanning by fire suppression staff</li> <li>Fire extinguisher training</li> </ul> |

### 3.2.1 Town of Milton Existing Major Building Stock Classification Summary

Analysis of the town's major building occupancy types was conducted using data from the Municipal Property Assessment Corporation (MPAC). Table 6 provides a summary of the town's existing major building occupancy classifications.

The majority of the town's existing property stock is comprised of Group C - Residential Occupancies (89.65%), with 52.48% of those being single-detached homes. The second largest occupancy type in the town is Other (farm), accounting for 2.26% of the town's property stock, which includes 938 farm buildings.

Table 6: Existing Major Building Classification Summary

| OBC Occupancy Classification   | OFM Fire Risk Sub-Model Major Building Classifications | Number of Occupancies | Percentage of Occupancies |
|--------------------------------|--------------------------------------------------------|-----------------------|---------------------------|
| <b>Group A</b>                 | <b>Assembly Occupancies</b>                            | <b>133</b>            | <b>0.32%</b>              |
| <b>Group B</b>                 | <b>Care or Detention Occupancies</b>                   | <b>32</b>             | <b>0.08%</b>              |
| <b>Group C</b>                 | <b>Residential Occupancies - Total</b>                 | <b>37,140</b>         | <b>89.65%</b>             |
| <i>Group C</i>                 | <i>Single-detached</i>                                 | <i>31,740</i>         | <i>52.48%</i>             |
| <i>Group C</i>                 | <i>Semi-detached</i>                                   | <i>4,932</i>          | <i>11.91%</i>             |
| <i>Group C</i>                 | <i>Row</i>                                             | <i>10,307</i>         | <i>24.88%</i>             |
| <i>Group C</i>                 | <i>Apartment &lt; 5 Storeys</i>                        | <i>133</i>            | <i>0.32%</i>              |
| <i>Group C</i>                 | <i>Apartment &gt; 5 Storeys</i>                        | <i>27</i>             | <i>0.07%</i>              |
| <i>Group C</i>                 | <i>Movable Dwellings</i>                               | <i>1</i>              | <i>0.00%</i>              |
| <b>Group D</b>                 | <b>Business &amp; Personal Services</b>                | <b>397</b>            | <b>0.96%</b>              |
| <b>Group E</b>                 | <b>Mercantile</b>                                      | <b>253</b>            | <b>0.61%</b>              |
| <b>Group F (all divisions)</b> | <b>Industrial Occupancies</b>                          | <b>690</b>            | <b>1.67%</b>              |
| <i>Division F1*</i>            | <i>High Hazard</i>                                     | <i>4</i>              | <i>0.01%</i>              |
| <i>Division F2*</i>            | <i>Medium Hazard</i>                                   | <i>675</i>            | <i>1.63%</i>              |
| <i>Division F3*</i>            | <i>Low Hazard</i>                                      | <i>11</i>             | <i>2.26%</i>              |
| <b>Other</b>                   | <b>Not classified in OBC- Farm</b>                     | <b>938</b>            | <b>2.26%</b>              |
| <b>Other</b>                   | <b>Not classified in OBC - Government</b>              | <b>1,843</b>          | <b>4.45%</b>              |
| <b>Total</b>                   |                                                        | <b>41,426</b>         | <b>100.00%</b>            |

\*Source for breakdown is (Municipal Property Assessment Corporation (MPAC), 2024).

Numbers may differ from stats Canada.

Consistent with most other municipalities in Canada, Group C - Residential Occupancies represent the most prominent type of building occupancy type. Standard Incident Reporting (SIR) from the OFM<sup>10</sup> indicates 83.51% of structure fires loss over the five-year period from January 1, 2018, to December 31, 2022, occurred within Group C - Residential Occupancies. It is also important to note 85.71% of the civilian fire related injuries, and 100.00% of the civilian fire related fatalities occurred in Group C – Residential.

### 3.3 Building Age and Construction

The OBC was adopted in 1975, and the Ontario Fire Code (OFC) was adopted in 1981. Together, these two codes have provided the foundation for eliminating many inconsistencies in building construction and maintenance that existed before their adoption. They ensure uniform building construction and maintenance standards for all new building projects and provide specific fire and life safety measures based on the building's use.

Examples of fire and life safety issues addressed by the codes include:

- Occupancy
- Exits/means of egress (including signs and lighting)
- Fire alarm and detection equipment
- Fire service access
- Inspection, testing, and maintenance

In many cases, the age and construction of a building can be directly associated with whether it was constructed before or after the introduction of these codes. For instance, during the late 19th and early 20th centuries, balloon frame construction was common, allowing exterior walls to extend continuously from the main floor to the roof, often through multiple stories. This construction method facilitated unobstructed fire and smoke spread from the basement to the roof, resulting in rapid fire propagation without occupants' or firefighters' knowledge. The OBC implemented requirements to change this construction method and introduced additional measures to mitigate fire spread through wall cavities.

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<sup>10</sup> (SIR - Municipal Fires Overview 2018-2022, 2024)

Similarly, the new codes recognize modern construction techniques such as lightweight wood frame construction, including the use of wood trusses and laminated veneer lumber. While these techniques and materials enhance construction efficiency and cost-effectiveness, they pose different challenges to firefighters compared to historical methods. For example, lightweight wood frame construction relies on structural components working together, so if one component fails due to exposure to high heat or fire, the entire roof system may fail. Lightweight construction is discussed further, later in this section.

Table 7 lists fire growth rates measured by the time it takes for a fire to reach one-megawatt (MW). Fire growth rate varies depending on the flammability of materials and contents within the building, introducing variances into the presented growth rates.

Table 7: Time to Reach 1 MW Fire Growth Rates in the Absence of Fire Suppression

| Fire Growth Rate | Time in Seconds (Minutes) to Reach 1 MW | Time in Seconds (Minutes) to Reach 2 MW |
|------------------|-----------------------------------------|-----------------------------------------|
| Slow             | 600 seconds (10 minutes)                | 848 seconds (14.13 minutes)             |
| Medium           | 300 seconds (5 minutes)                 | 424 seconds (7.07 minutes)              |
| Fast             | 150 seconds (2.5 minutes)               | 212 seconds (3.53 minutes)              |

Table Source: (Office of the Fire Marshal, 2011)

The impact of increasing fire growth rates is directly related to the time lapse from ignition to flashover, where combustible items within a given space reach a temperature high enough for them to auto-ignite. Figure 4 (below) illustrates the exponential increase in fire temperature over time and the potential for property loss and loss of life.

Figure 4: Fire Propagation Curve

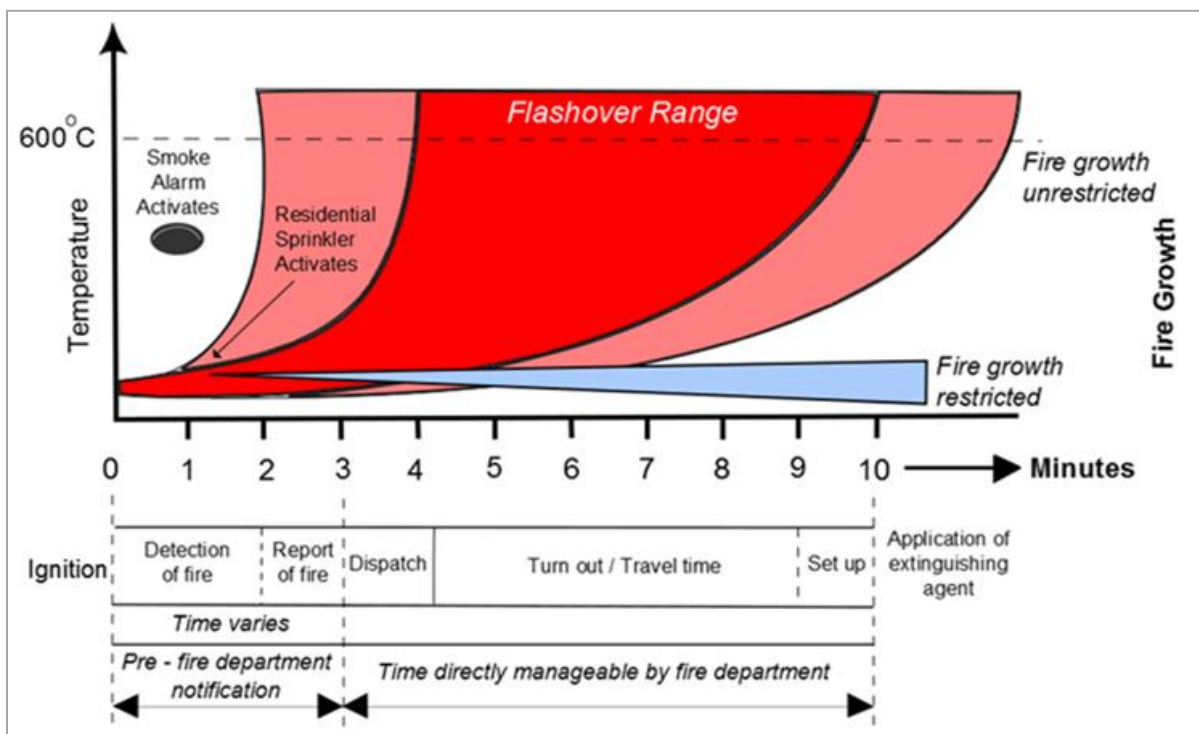


Figure Source: (Alternative Water Supplies for Public Fire Protection, 2012, p. 10)

Understanding building construction and materials is crucial for firefighters to determine the appropriate fire attack strategies and safety measures needed. Therefore, knowledge of a building's age may directly correlate with the construction methods and materials used, making building age and construction a vital component of this CRA.

Table 8 provides a summary of the age of the building stock within the town prior to the adoption of the new codes (OBC and OFC). The analysis suggests that 8.51% (3,631)<sup>11</sup> of the building stock was constructed before 1975 preceding the adoption of the 1975 OBC and 16.51% (7,046 properties) of the town's building stock was constructed before 1981, preceding the adoption of the 1981 OFC. While this represents a fire risk within the community, it is significantly lower than the provincial average.

<sup>11</sup> (Municipal Property Assessment Corporation (MPAC), 2024)

Table 8: Period of Construction of all Dwellings – Town of Milton and Ontario<sup>12</sup>

| Period of Construction | Milton Dwellings | Milton % of Dwellings | Ontario Total Number of Dwellings | Ontario % of Dwellings |
|------------------------|------------------|-----------------------|-----------------------------------|------------------------|
| Prior to 1961          | 1,910            | 4.48%                 | 1,247,430                         | 22.72%                 |
| 1961-1980              | 5,136            | 12.03%                | 1,456,110                         | 26.52%                 |
| 1981-1990              | 1,798            | 4.21%                 | 711,940                           | 12.97%                 |
| Total prior to 1991    | 8,844            | 20.72%                | 3,415,480                         | 62.20%                 |
| 1991-2000              | 517              | 1.21%                 | 644,080                           | 11.73%                 |
| 2001-2005              | 8,388            | 19.65%                | 385,045                           | 7.01%                  |
| 2006-2010              | 8,725            | 20.44%                | 348,760                           | 6.35%                  |
| 2011-2015              | 7,272            | 17.04%                | 328,735                           | 5.99%                  |
| 2016-2021              | 7,564            | 17.72%                | 369,095                           | 6.72%                  |
| Total 1991-2021        | 32,466           | 76.07%                | 2,075,715                         | 37.80%                 |
| 2022 - 2023            | 1,367            | 3.20%                 | N/A                               | N/A                    |
| Total Dwellings*       | 42,677           | 100.00%               | 5,491,200                         | 100%                   |

### 3.3.1 Lightweight Construction

As of February 25, 2022, the OFM has directed that available information documenting the presence and location of truss and lightweight construction systems, referred to as lightweight construction, must inform pre-planning activities by fire departments. Buildings with lightweight construction pose a safety risk to responding firefighters due to their susceptibility to premature failure and rapid collapse under fire conditions. Pre-plans provide responding fire departments with awareness of the presence of lightweight construction, enabling proactive fire response strategies to protect the safety of firefighters.

The use of lightweight truss construction in residential homes became predominate in the 1980's. It should be considered that all residential dwellings (single detached) should be built with lightweight construction. The town should ensure to identify all buildings with lightweight construction, primarily those constructed using wood framing. It is anticipated that the town will collect and document information on buildings with lightweight construction to update the CRA during the annual review and updating process. Furthermore, it is expected that the MFRS will integrate this information into their pre-planning program.

<sup>12</sup> (Statistics Canada, 2021)

### 3.4 Building Density and Exposure

NFPA 1730 - Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition) highlights building density as a crucial factor for understanding potential fire risk, particularly in core areas like downtown districts. Closely spaced buildings, typical of historic downtown core areas and newer infill construction, may pose a higher risk of fire spreading to adjacent exposed buildings. In densely built-up areas with minimal building setbacks, a fire originating in one building could extend to neighboring structures due to their proximity. Moreover, the proximity of buildings can impede firefighting operations by limiting access for firefighters and equipment.

The adoption of the OBC and the OFC has required spatial separations and the use of fire-retardant materials and construction methods to mitigate fire risks. Basic firefighting practices prioritize the protection of exposures as a primary function and consideration during fire and emergency service responses. As mentioned earlier, older developments as well as new infill projects may present increased exposure risks due to higher building density.

Table 9 below illustrates a comparison of the town's existing Group C – residential building stock with that of the province, based on the 2021 Statistics Canada Census. Table 9 is an indication of the number of dwelling types, where as Table 6 above is an indication of the number of building/occupancy types driven by the OBC classifications.

Table 9: Group C Residential Building Stock Comparison

| Dwelling Type                       | Milton | %      | Ontario   | %      |
|-------------------------------------|--------|--------|-----------|--------|
| Single Detached                     | 21,740 | 58.52  | 2,953,210 | 53.78  |
| Semi-Detached                       | 4,932  | 13.28  | 303,260   | 5.52   |
| Row House                           | 10,307 | 27.75  | 505,265   | 9.20   |
| Apartment in a building < 5 Storeys | 133    | 0.36   | 729,815   | 13.29  |
| Apartment in a building > 5 Storeys | 36     | 0.10   | 984,665   | 17.93  |
| Moveable dwelling                   | 1      | 0.00   | 14,985    | 0.27   |
| Total                               | 37,149 | 100.00 | 5,491,200 | 100.00 |

Table Source: (MPAC, 2024) (Milton) and (Statistics Canada, 2021)(Ontario)

The Town of Milton has a higher proportion of row houses (27.75%) compared to the provincial average of 9.20%. Conversely, Milton has significantly fewer apartments in buildings over five storeys (0.10%) compared to Ontario's 17.93%. The proportion of single detached houses in Milton (58.52%) is consistent with the provincial average of 53.78%.

### 3.5 Building Growth & Density

A snapshot of development in the Town of Milton over the next decade, according to the Town of Milton's Official Plan<sup>13</sup>, projects a population growth of 242,052 or 152.80% by 2051. This growth is identified in the Derry Green Business Park, the Uptown, Milton GO Station Area, Trafalgar Corridor & Agerton Areas and the Education Village. Specifically, growth outside these urban centres represents 90% of the population growth and 89% of total household growth. There is 120,000 sq ft of new proposed office space, and 3,000 high density condo units planned or already under construction.<sup>14</sup>

**Derry Green Business Park:** The employment development in the Derry Green Business Park is planned to include a mix of business types, such as logistics, manufacturing, and distribution facilities.

**Major Transit Station Area:** The area surrounding the GO station will accommodate mixed-use and high-density residential and office development.

**Milton Education Village:** This 400-acre area is planned to accommodate post-secondary education, residential, commercial employment, and recreational amenities. It is estimated to support 12,803 residents and 2,500 jobs.

**Trafalgar Corridor:** This new greenfield development is planned to accommodate residential, office, and mixed-use developments. It is anticipated to house an additional 32,000 residents.

**Agerton Area:** This area is planned for mixed-use employment and higher-density residential developments. A new GO transit station is also proposed for this area. The estimated population is 6,800 residents, with 15,000 jobs projected over the next 20 years.<sup>15</sup>

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<sup>13</sup> (Town of Milton Official Plan, 2024 (draft))

<sup>14</sup> (Tracking Development, 2024)

<sup>15</sup> (Growing in Milton: Background & Information Report, 2023)

### 3.5.1 Density

“In the Town, the target number of new housing units occurring within the Designated Greenfield Area and Built-Up Area between 2022 and 2041 is 29,620 and 9,800 units respectively. Density targets for Designated Greenfield Areas for 2041 (number of people and jobs per hectare in the Designated Greenfield Area by 2041, consisting of the lands within the Regional Urban Boundary and outside of the Built-Up Area) are approximately 59 people/jobs per hectare. The target number of jobs within Employment Areas is expected to be roughly 19 jobs per hectare<sup>16</sup>.”

“The housing expansion is expected to comprise 28% low-density (single and semi-detached homes), 38% medium-density (multiplexes), 26% high-density (apartments), and 7% secondary suites.”<sup>17</sup>

Table 10 illustrates the Town of Milton’s proposed density phased over the next 20 years.

Table 10: Milton Share of Regional Phasing

| Location & Type             | 2022-2026 | 2027-2031 | 2032-2036 | 2037-2041 |
|-----------------------------|-----------|-----------|-----------|-----------|
| Units in Greenfield Area    | 5,760     | 6,120     | 8,780     | 8,960     |
| Low Density Units           | 2,560     | 2,710     | 3,960     | 4,040     |
| Medium & High-Density Units | 3,200     | 3,400     | 4,820     | 4,920     |
| Units in Built Up Area      | 2,360     | 2,500     | 2,480     | 2,530     |
| Employment                  | 11,700    | 12,500    | 14,000    | 14,300    |

Table Source: (Official Plan for the Halton Planning Area, 2024, p. 19)

### 3.5.2 Additional Dwelling Units

An Additional Dwelling Unit (ARU) is a self-contained residential dwelling unit with its own cooking, sanitary, and sleeping facilities. It can be located either within a single-detached, semi-detached, or townhouse dwelling, or in an ancillary building or structure on the same lot. ADUs are often referred to as additional dwelling units, basement apartments, in-law suites, coach houses, laneway houses, garden suites, tiny homes, and similar terms.

<sup>16</sup> (Growing in Milton: Background & Information Report, 2023, p. 47)

<sup>17</sup> (MiltonToday, 2024)

Property owners operating additional dwelling units (ADU's) (attached and detached) defined in the revised Comprehensive Zoning By-law 016-2014<sup>18</sup> are permitted to have a maximum of 3 ADU's, but not more than 1 detached ADU. ADU's are not currently required to register and therefore there is limited ability to ensure the Town has up-to-date contact information for the number of ADU's, property owner information, and to verify that the property continues to comply with Ontario Fire and Building Codes, as well as the Town's zoning by-law requirements.

A proposed by-law to address registering ADU's has been drafted, however at time of this review has not been enacted by Council. There are currently no registered ADUs in the Town. However, the building department has approximately 1,400 building permit applications on file for ADUs. In addition, there are 70 permit applications for finished basements, 3 permits for accessory apartments (detached), and 105 permit applications for accessory attached units within homes. Based on current trends, it is anticipated that there could be between 500 and 800 additional requests for ADU permit registration in the near future.<sup>19</sup> The risk with ADU's increase with multiple families occupying one building, concern about ADU's operating without appropriate fire safety considerations in place, and the potential need for additional emergency resources on scene to address the increased number of occupants. The current risk is the permitting of these ADU's without a tracking method and understanding the potential situation prior to arrival on scene of an emergency incident. The MFRS should continue to monitor this situation and update the risk in the CRA accordingly. These additions will increase risk and challenge the existing resources of the fire service.

## 3.6 Building Height and Area

### 3.6.1 Building Height

The building height is a characteristic that can make firefighting operations difficult. Several factors contribute to these challenges, including density and the number of occupancies, vertical stacking that allows for vertical air movement, and the movement of smoke, heat, and fire upwards. Additionally, access for firefighting on upper floors, including suppression activities, rescue, and evacuation, can be problematic.

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<sup>18</sup> Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area) - 2014

<sup>19</sup> (Additional Residential Units, 2024)

Efficient evacuation can be challenging due to a lack of direction, signage, or familiarity of occupants, potentially resulting in overcrowding of stairways and exit routes. Ensuring all required fire and life safety systems are in place and functioning is crucial for these occupancies. However, taller buildings may experience extended rescue/fire suppression response times for firefighters to ascend to upper levels, known as “vertical response.” Strategies like “shelter-in-place,” where occupants are directed to stay within their units, can be effective life safety measures. However, functional internal building communication systems are critical for the success of this strategy. Targeted public education campaigns addressing strategies like shelter-in-place are also vital for educating building occupants. In addition to the fire and life safety systems, high-rise buildings will require increase to effective response force numbers to ensure that the appropriate number of firefighters are on-scene to complete critical tasks needed during fire suppression operations.

It is important to note that terms like “high rise,” “tall buildings,” and “high buildings” have various meanings. For the purposes of developing this Community Risk Assessment (CRA), the Ontario Building Code (OBC) and Ontario Fire Code (OFC) definitions have been used. These codes define a high-rise as a building 18 metres (59 feet) above grade or six storeys.

The following fire safety features are required by the OBC for new buildings, and the OFC for occupied buildings:

- Building services (ventilation, firefighter elevators, water supply, etc.)
- Non-combustible construction (concrete and steel)
- Interior finishes (drywall, block, concrete slab)
- Fire detection and notification of occupants (pull stations, heat detectors, fire detectors, alarm system)
- Compartmentation (containment of fire and smoke spread, fire doors, fire shutters, self-closing mechanisms on doors, etc.)
- Means of egress (stairwells constructed with non-combustibles)
- Fire protection system (automatic sprinklers, standpipes and hose cabinets, fire pumps, fire extinguishers, etc.)

These fire safety features are crucial for ensuring the safety of the public and firefighters alike. Currently, the town has 24 buildings, identified in Table 11, classified as high-rise buildings according to the OBC, with floor levels 18 meters (59 feet) above grade or above five storeys. It has also identified a further 36 high-rise buildings, that are either under-construction or planned for construction which will further increase the risk and resources to MFRS.

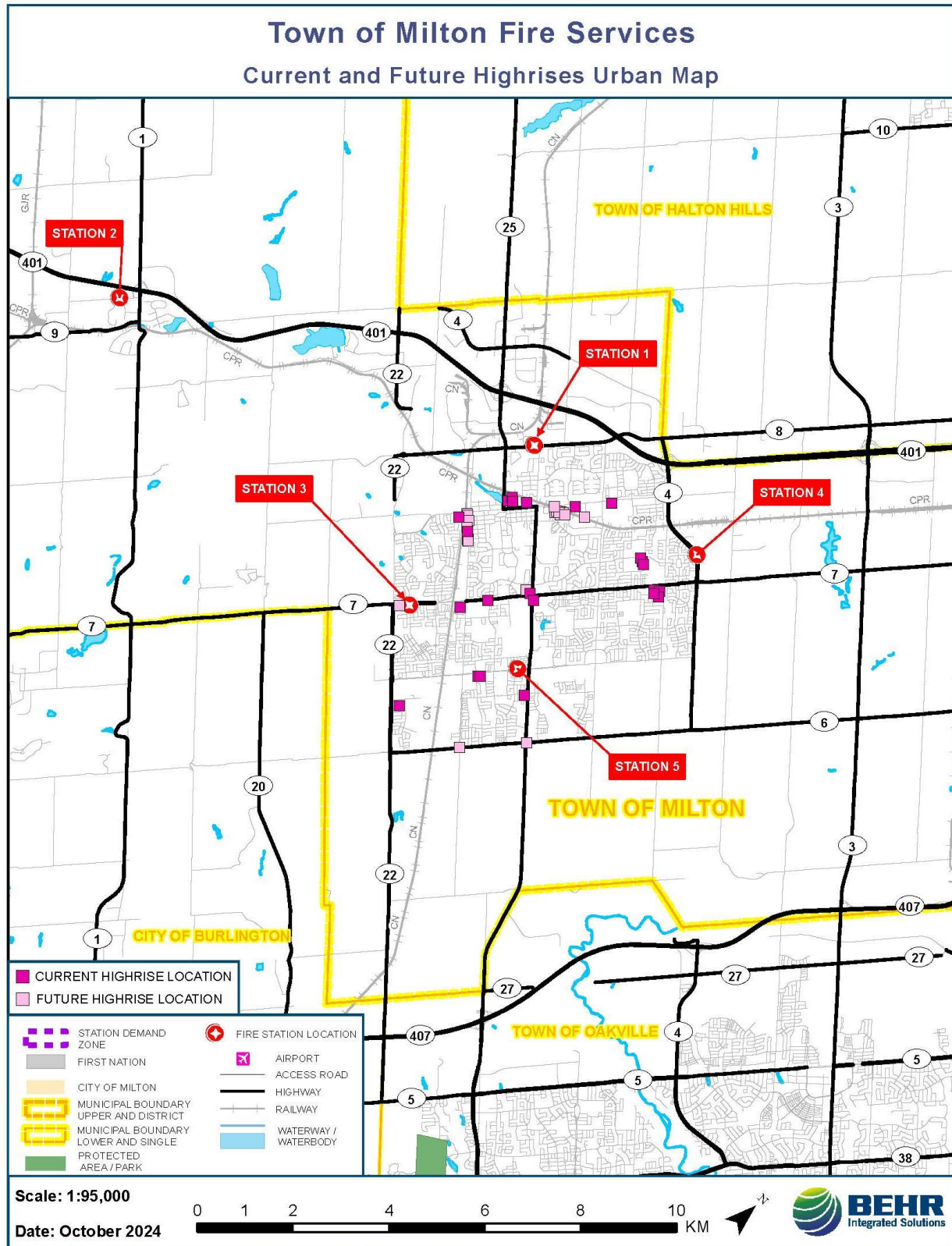
Table 11: Existing and Future High-Rises

|    | Existing                      |    | Under Construction or Planned        |
|----|-------------------------------|----|--------------------------------------|
| 1  | 716 Main St E, Milton         | 1  | Hwy 25 and Derry Rd, Milton          |
| 2  | 1050 Main St E, Milton        | 2  | Hwy 25 and Derry Rd, Milton          |
| 3  | 100 Millside Dr, Milton       | 3  | Hwy 25 and Derry Rd, Milton          |
| 4  | 100 Millside Dr, Milton       | 4  | 145 Nipissing Rd, Milton             |
| 5  | 610 Farmstead Dr, Milton      | 5  | 147 Nipissing Rd, Milton             |
| 6  | 1419 Costigan Rd, Milton      | 6  | 151 Nipissing Rd, Milton             |
| 7  | 1421 Costigan Rd, Milton      | 7  | Thompson and Drew, Milton            |
| 8  | 830 Megson Terrace, Milton    | 8  | Thompson and Drew, Milton            |
| 9  | 383 Main St E, Milton         | 9  | Thompson and Drew, Milton            |
| 10 | 33 Whitmer St, Milton         | 10 | Bronte Rd and Britannia, Milton      |
| 11 | 1125 Leger Way, Milton        | 11 | 105 Nipissing Rd, Milton             |
| 12 | 1105 Leger Way, Milton        | 12 | 115 Nipissing Rd, Milton             |
| 13 | 620 Sauve St, Milton          | 13 | 125 Nipissing Rd, Milton             |
| 14 | 630 Sauve St, Milton          | 14 | Regional Rd 25 and Britannia, Milton |
| 15 | 640 Sauve St, Milton          | 15 | Regional Rd 25 and Britannia, Milton |
| 16 | 650 Sauve St, Milton          | 16 | Regional Rd 25 and Britannia, Milton |
| 17 | 1379 Costigan Rd, Milton      | 17 | Regional Rd 25 and Britannia, Milton |
| 18 | 81 Millside Dr, Milton        | 18 | Regional Rd 25 and Britannia, Milton |
| 19 | 122 Bronte St S, Milton       | 19 | Regional Rd 25 and Britannia, Milton |
| 20 | 82 Millside Dr, Milton        | 20 | Regional Rd 25 and Britannia, Milton |
| 21 | 600 Ontario St S, Milton      | 21 | Regional Rd 25 and Britannia, Milton |
| 22 | 470 Gordon Krantz Ave, Milton | 22 | 700 Main St, Milton                  |
| 23 | 1440 Clarriage Crt, Milton    | 23 | 706 Main St, Milton                  |

|    |                       |    |                          |
|----|-----------------------|----|--------------------------|
| 24 | 8010 Derry Rd, Milton | 24 | 28 Bronte St, Milton     |
|    |                       | 25 | 60 Bronte St. Milton     |
|    |                       | 26 | 104 Bronte St, Milton    |
|    |                       | 27 | 155 Nipissing Rd, Milton |
|    |                       | 28 | 180 Bronte St S, Milton  |
|    |                       | 29 | 186 Bronte St S, Milton  |
|    |                       | 30 | 188 Bronte St S, Milton  |
|    |                       | 31 | 190 Bronte St S, Milton  |
|    |                       | 32 | 194 Bronte St, S, Milton |
|    |                       | 33 | 550 Ontario St, Milton   |
|    |                       | 34 | 780 Main St E, Milton    |
|    |                       | 35 | 780 Main St E, Milton    |
|    |                       | 36 | 560 Main St E, Milton    |

Map 3, below on page 35 shows the locations of both existing and under construction or planned high-rises. These are all located currently in the urban centre.

Map 3: Current and Future High-Rises



### 3.6.2 Building Area

Building area can pose comparable challenges to those present in taller buildings. Horizontal travel distances, rather than vertical, can lead to extended response times for firefighters attempting rescue or fire suppression activities. Large buildings, such as industrial plants, warehouses, department stores, and big box stores, often contain significant volumes of combustible materials. Many of these occupancies also use high rack storage, making fires within these systems difficult to access and increasing the risk of collapse, which can endanger firefighter safety.

As part of the data collection process, town staff provided building footprint data for the Town of Milton. The information presented in Table 12 indicates that the majority of the building stock (81.44%) has a total building area (footprint) of 2,500 square feet or less. This summary also indicates that 0.16% (66 buildings) have an area greater than 50,000 square feet, or approximately 4,655 square metres. It should be noted there are 44 buildings over 100,000 square feet and 2 buildings over 1,000,000 square feet. (Distribution centres at 2200 Yukon Court and 8450-8550 Boston Church Road).

Table 12: Building Area

| Building Size                         | # of Buildings | % of all Buildings |
|---------------------------------------|----------------|--------------------|
| 0-2,499                               | 34,613         | 81.44%             |
| 2,500-4,999                           | 7382           | 17.37%             |
| 5,000-9,999                           | 265            | 0.62%              |
| 10,000-19,999                         | 101            | 0.24%              |
| 20,000-49,999                         | 76             | 0.18%              |
| >50,000                               | 66             | 0.16%              |
| Total*                                | 42,503         | 100.00%            |
| *Condo units are counted individually |                |                    |

### 3.7 Potential High-Fire Risk Occupancies

Potential high-fire risk occupancy is another factor to consider within a town's building stock. High fire risk can be associated with a combination of factors, including building density (exposure), building age, and construction. Fuel load refers to the quantity and type of combustible content and materials within a building, encompassing combustible contents, interior finishes, and structural materials. Combustible content typically poses the greatest potential fire loss risk, as higher fuel loads increase the likelihood of ignition and severity of fires.

In many communities, large amounts of fuel load can be concentrated within a single occupancy, such as a building supply business, a large multi-unit residential building, or a historic downtown core. This section of the CRA will primarily focus on fuel load for industrial occupancies.

### 3.7.1 Fuel Load Concerns

Buildings with potential fuel load concerns are identified in Table 13. These include structures that house materials such as oxidizers, flammable liquids, and combustible chemicals.

Table 13: Potential High Fire Risk Occupancies

| No. | Facility Name/ Organization                 | Address                      | Risk Description                                         |
|-----|---------------------------------------------|------------------------------|----------------------------------------------------------|
| 1   | Westrock                                    | 8150 Parkhill Drive          | Combustible content                                      |
| 2   | Modatek Systems                             | 400 Chisholm Drive           | High fire load, flammable                                |
| 3   | Karmax Heavy Stamping                       | 331-333 Market Drive         | High fire load, flammable                                |
| 4   | Union Gas Compressor Station                | 6603-6689 Eighth Line        | Compressed Gas                                           |
| 5   | Roxul Inc                                   | 551 Harrop Drive             | Manufacturing, combustible content                       |
| 6   | Canada Building Materials (Ready Mix Plant) | 805 Nipissing Road           | Manufacturing, building materials, combustible materials |
| 7   | CRH Canada (Ready Mix Plant)                | 105 Steeles Avenue E         | Manufacturing, building materials, combustible materials |
| 8   | Maxi Mix                                    | 8105 Esquesing Line          | Manufacturing, building materials, combustible materials |
| 9   | DSV Distribution Centre                     | 2200 Yukon Court             | Over 1,000,000 square feet                               |
| 10  | Sysco Food Services                         | 2800 Peddie Road             | Food Storage/Refrigeration                               |
| 11  | CPKC Milton Yard                            | 7251 Trafalgar Road          |                                                          |
| 12  | Rona Regional Distribution Centre           | 8450-8550 Boston Church Road | Over 1,000,000 square feet, warehousing                  |
| 13  | Versa Cold                                  | 2701 High Point Drive        | Food Storage/Refrigeration                               |
| 14  | Smart Stop Self Storage                     | 530 Martin Street            | Storage/potential combustible contents                   |
| 15  | Storage Solutions - Rear Gate               | 9116 Twiss Road              | Storage/potential combustible contents                   |
| 16  | Storage Solutions                           | 9200 Twiss Road              | Storage/potential combustible contents                   |

| No. | Facility Name/ Organization    | Address                 | Risk Description                                                                 |
|-----|--------------------------------|-------------------------|----------------------------------------------------------------------------------|
| 17  | Stargate Manufacturing Inc     | 140 Market Drive        | 40,000 sq ft, truck manufacturing, combustible content                           |
| 18  | RIMEX supply                   | 570 Mcgeachie Drive     | Heavy industrial wheel/Rim manufacturing, combustible content                    |
| 19  | Solex Industrial Handling      | 200 Nipissing Road      | Metal fabrication, combustible content                                           |
| 20  | Smelko Foundry Products        | 701 Nipissing Road      | Manufacturing, combustible content                                               |
| 21  | Serpact Spring Service Limited | 8724 Regional Road 25   | Truck Repair, combustible content                                                |
| 22  | Sensient Flavours Canada Inc   | 8020 Fifth Line         | Food product manufacturing, combustible content                                  |
| 23  | Sargent Farms - Processing     | 61 Garden Lane          | Poultry processing, combustible content                                          |
| 24  | Sargent Farms - Distribution   | 6529 Regional Road 25   | Poultry Distribution warehouse, combustible content                              |
| 25  | Active Transport               | 245 Bronte Street North | Automotive warehousing, combustible content                                      |
| 26  | Rockwool - Primary Entrance    | 805 Steeles Ave E       | Combustible content                                                              |
| 27  | Rona Distribution Centre       | 11000 Steeles Ave       | Over 1,000,000 square feet, warehousing                                          |
| 28  | Ridley Windows and doors       | 2675 Reid Sideroad      | Window Manufacturing, combustible content                                        |
| 29  | Recochem Incorporated          | 8725 Holgate Cr         | Large (96,000 sq ft) manufacture, sale of chemical solvents – highly combustible |
| 30  | Pro Form Products Limited      | 624 Mcgeachie Drive     | Automotive repair product manufacturing, combustible content                     |
| 31  | Pit Crew Truck Repair          | 8724 Regional Road 25   | Automotive repair product manufacturing, combustible content                     |
| 32  | Parker                         | 160 Chisholm Drive      | Industrial manufacturing, combustible content                                    |

| No. | Facility Name/ Organization                   | Address                          | Risk Description                                               |
|-----|-----------------------------------------------|----------------------------------|----------------------------------------------------------------|
| 33  | Pallet Management Group                       | 9148 Twiss Road                  | Wood pallet manufacturing, highly combustible material         |
| 34  | Traffix                                       | 375 Wheelabrator Way             | Warehousing (over 40,000 sq ft)                                |
| 35  | Goodfellow                                    | 9144 Twiss Road                  | Bulk building material storage                                 |
| 36  | Nordex Explosives                             | 10418 Second Line<br>Nassagaweya | Manufacturing explosive products                               |
| 37  | Anchor truck repair/Central truck and trailer | 600 Harrop Drive                 | Truck repair, automotive, combustible content                  |
| 38  | Multi-unit industrial                         | 8400 Parkhill Drive              | Large industrial mall - warehousing combustible content        |
| 39  | Multi-unit industrial                         | 8300 Parkhill Drive              | Large industrial mall - warehousing combustible content        |
| 40  | MTB Transit Solutions                         | 8170 Lawson Road                 | Auto repair shop, combustible content                          |
| 41  | Moffatt Scrap Iron and Metal                  | 9620 Guelph Line                 | Scrap metal dealer/recycling – potential combustion            |
| 41  | Milton Transport Inn Limited                  | 8604 Escarpment Way              | Automotive repair, combustible content                         |
| 42  | Milton Hydro Transformer Station              | 96 Bronte St N                   | Combustible content                                            |
| 43  | Milton Hydro Distribution                     | 200 Chisholm Drive               | Combustible content                                            |
| 44  | Milton Hydro Transformer Station              | 50 Ontario Street N              | Combustible content                                            |
| 45  | Medtronic Canada ULC                          | 95 Market Drive                  | Manufacturing medical products – possible combustible content  |
| 46  | Lumberville                                   | 318 Bronte St S                  | Manufacturing, building materials, combustible materials       |
| 47  | Logistics Distribution Incorp                 | 550 Industrial Drive             | Warehousing, over 100,000 sq ft, possible combustible contents |
| 48  | Great Northern Insulation                     | 450 Industrial Drive             | Insulation manufacturer, Combustible materials                 |

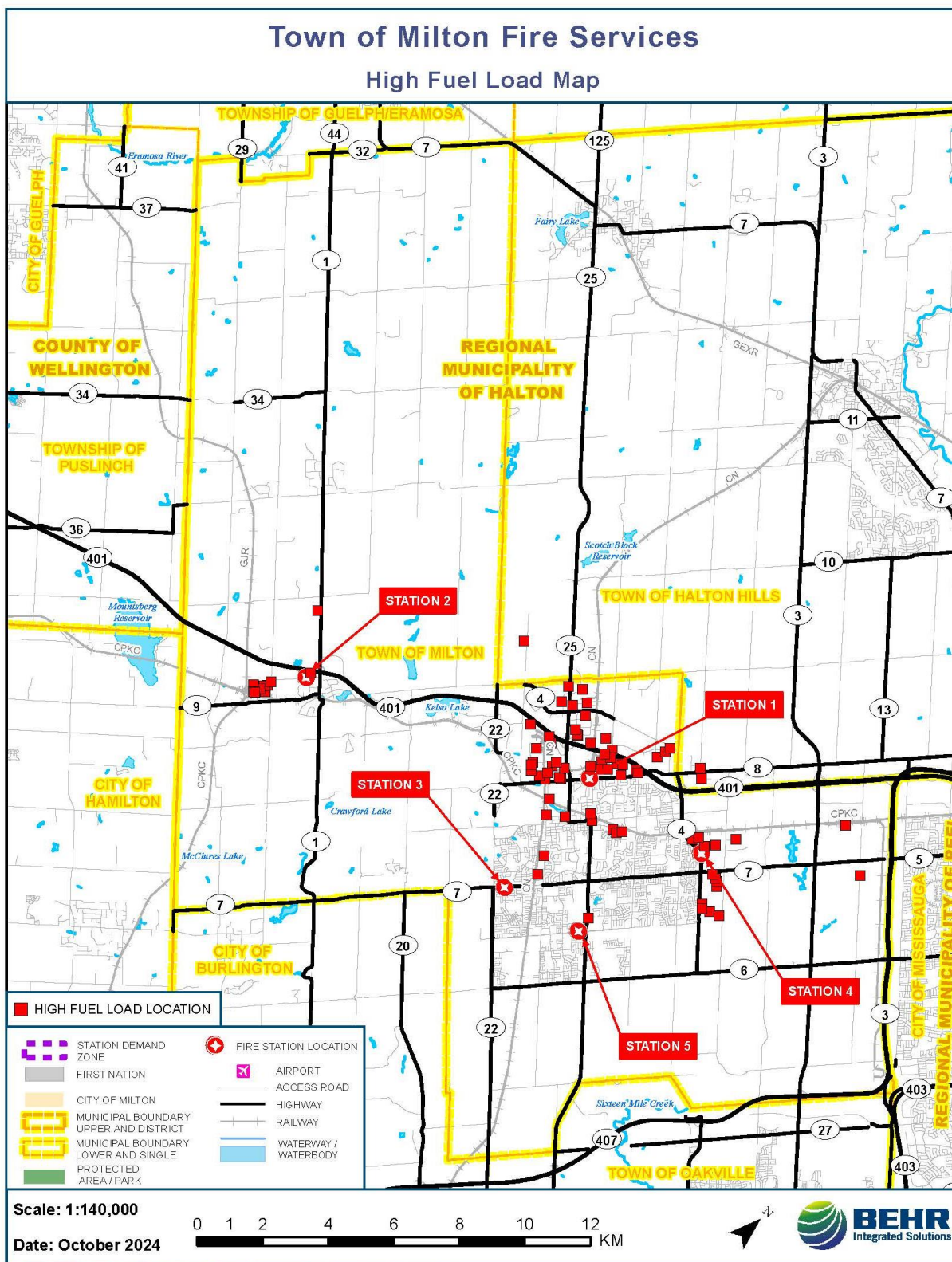
| No. | Facility Name/ Organization    | Address             | Risk Description                                                           |
|-----|--------------------------------|---------------------|----------------------------------------------------------------------------|
| 49  | Goodfellow Building C- D       | 9120 Twiss Road     | Lumber/wood manufacturing, combustible contents                            |
| 50  | Goodfellow building B          | 9180 Twiss Road     | Lumber/wood manufacturing, combustible contents                            |
| 51  | Goodfellow Building A          | 9190 Twiss Road     | Lumber/wood manufacturing, combustible contents                            |
| 52  | Goodfellow Building A          | 9188 Twiss Road     | Lumber/wood manufacturing, combustible contents                            |
| 53  | Fidelity Stainless             | 855 Steeles Ave E   | Warehousing, (over 40,000 sq ft) steel distribution, combustible contents  |
| 54  | Fasteners and Fittings Inc     | 901 Steeles Ave E   | Large Warehousing (90,000 sq Ft), combustible contents                     |
| 55  | Eaton Canada Limited           | 610 Industrial Dr   | Electrical equipment warehousing, (over 90,000 sq ft) combustible contents |
| 56  | Dufferin Quarry                | 9410 Dublin Line    | Sand quarry                                                                |
| 57  | Dare Foods                     | 725 Steeles Ave E   | Food manufacturing plant, combustible contents                             |
| 58  | Canadian Welding Bureau        | 8260 Parkhill Drive | Welding school, high flammable/combustion risk                             |
| 59  | Crawford Metal CMC             | 620 Harrop Drive    | Pipe manufacturing, high combustible risk                                  |
| 60  | McEwan Petroleum               | 421 Mcgeachie Drive | Fuel products, highly combustible                                          |
| 61  | Blue Line Distribution         | 8175 Lawson Road    | Trucking logistics/automotive, potential combustible contents              |
| 62  | BJG Warehouse and Distribution | 510 Bronte St S     | Box/Pallet warehousing, potential for combustibles                         |
| 63  | Aimco Solrec Ltd.              | 425 Morobel Drive   | Waste Management/hazardous waste disposal, high risk, flammables           |

| No. | Facility Name/ Organization | Address                 | Risk Description                                                     |
|-----|-----------------------------|-------------------------|----------------------------------------------------------------------|
| 64  | W.R Meadows of Canada       | 70 Hannant Ct           | Manufacturer of concrete construction products, combustible contents |
| 65  | Connect Conveyor Belting    | 405 Industrial Dr       | Conveyor belt manufacturer, combustible contents                     |
| 66  | Not identified              | 10725 Louis St Laurent  | Unidentified industrial (James Snow Business Park Development)       |
| 67  | Not identified              | 6440-6790 Fifth Line    | Unidentified industrial (James Snow Business Park Development)       |
| 68  | Not identified              | 955 James Snow Parkway  | Unidentified industrial (James Snow Business Park Development)       |
| 69  | Rockwool                    | 1655 Reading Court      | Warehousing, manufacturing, combustible contents                     |
| 70  | DHL Supply Chain            | 1820-1890 Reading Court | Logistics - Large warehousing (Over 500,000 sq feet)                 |

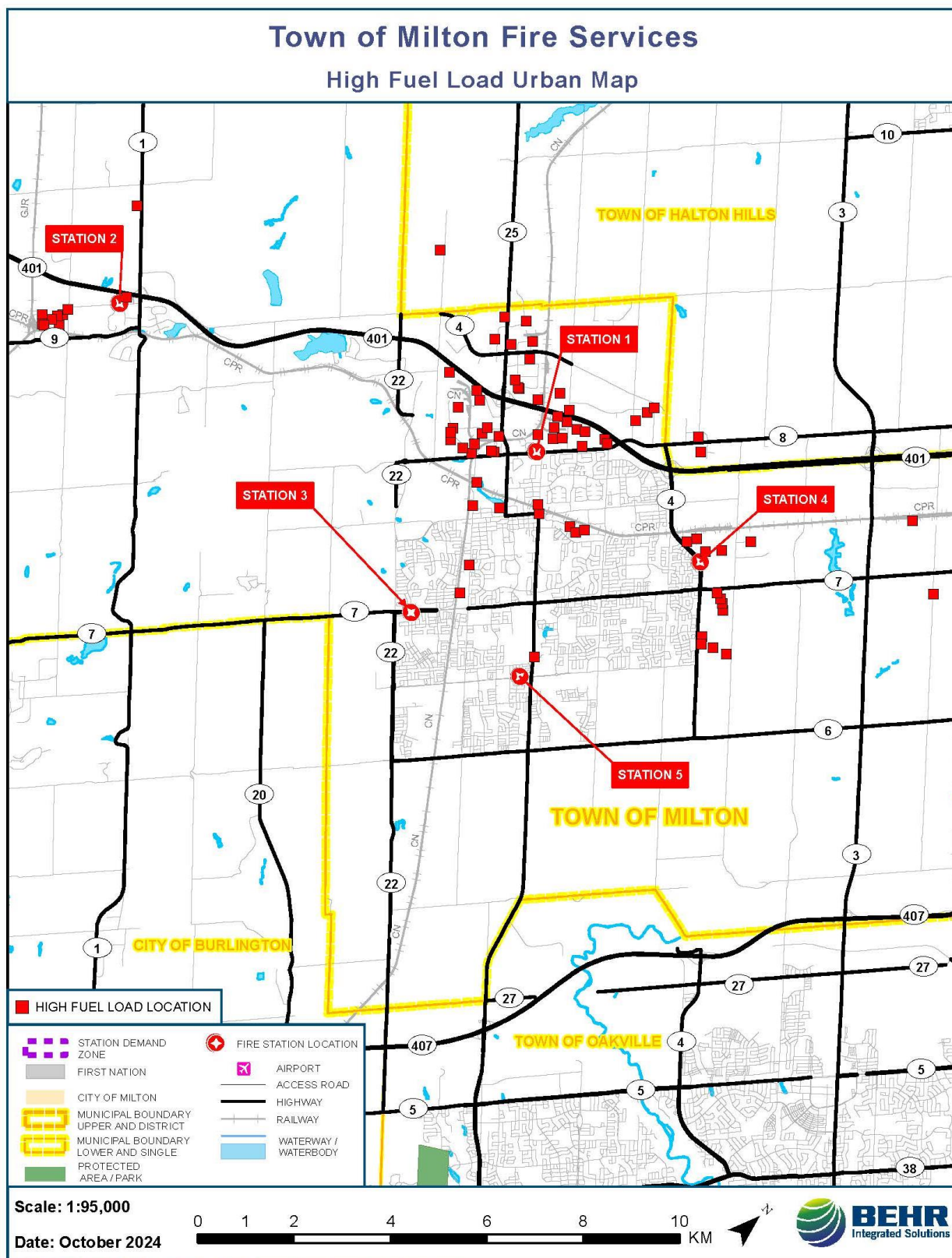
In addition to ensuring compliance with the requirements of the OBC and the OFC, fire services can implement operational strategies to address fuel load concerns. These strategies include regular fire inspection cycles and pre-planning of buildings of this nature, which provide an operational advantage in the event of a fire. In the higher risk buildings identified in table 13 above, increases to effective response force numbers will be required to ensure that the appropriate number of firefighters are on-scene to complete critical tasks needed during fire suppression operations.

Map 4 shows the locations of the identified properties that may have higher fuel load and higher risk considerations. Map 5 is a more defined area in the built-up urban centre of the property locations.

Map 4: Higher Fuel Load locations



Map 5: Higher Fuel Load Locations Urban Centre



### 3.8 Occupancies with Potential High-Fire Safety Risk

Fire risk affects individuals differently, and some people are more vulnerable to fire injury or fatality than others. These vulnerable individuals may be unable to self-evacuate during a fire or require assistance in their evacuation efforts. Identifying the location and number of vulnerable individuals or occupancies within the community offers insight into the magnitude of this demographic within a community.

#### 3.8.1 Registered Vulnerable Occupancies

From an occupancy perspective, vulnerable occupancies house individuals who may require assistance to evacuate during an emergency due to cognitive or physical limitations, presenting a potential high-life safety risk. The OFM defines vulnerable occupancy as any care occupancy, care and treatment occupancy, or retirement home regulated under the Retirement Homes Act. These occupancies accommodate individuals such as seniors or people requiring specialized care.

It is essential to note that not all vulnerable individuals reside in vulnerable occupancies. For example, some seniors who are vulnerable due to physical limitations may live independently or in subsidized housing, making them a key demographic to reach.

Ontario Regulation 150/13: Fire Code, which amends Ontario Regulation 213/07: Fire Code, identifies vulnerable occupancies as care, care and treatment, and retirement homes. This encompasses hospitals, certain group homes, seniors' residences, and long-term care facilities. The regulation mandates the fire service to conduct annual inspections, approve and witness fire drill scenarios, and submit specific information regarding the occupancy to the OFM. A list of vulnerable occupancies is presented in Table 14.

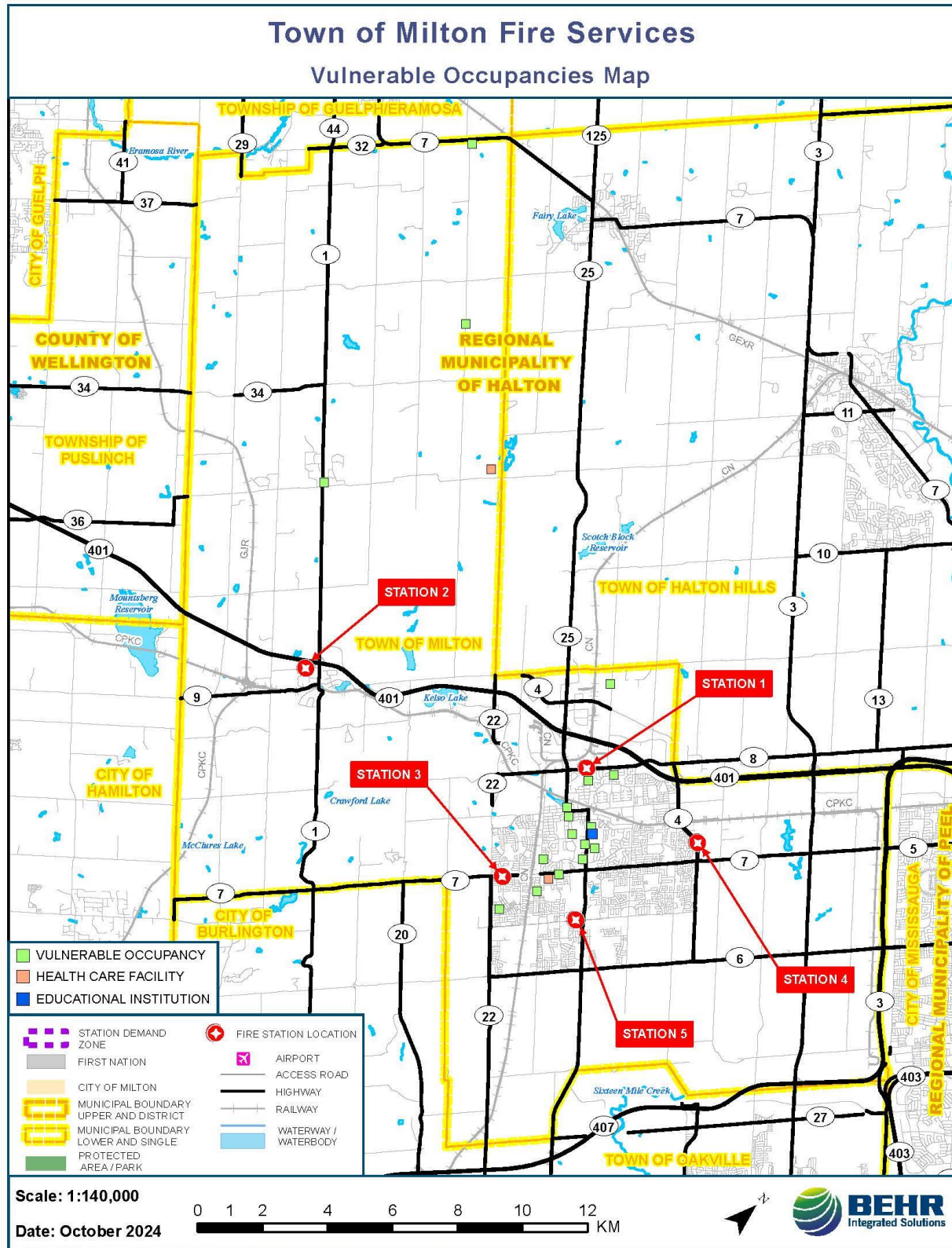
Table 14: Vulnerable Occupancies

| No. | Property Name                      | Occupancy Type                                         | Location                            |
|-----|------------------------------------|--------------------------------------------------------|-------------------------------------|
| 1   | Milton District Hospital           | Hospital                                               | 725 Bronte Street South             |
| 2   | Allendale Long Term Care           | Long Term Care home                                    | 185 Ontario Street South            |
| 3   | Aspira Martindale Gardens          | Old age/retirement home                                | 45 Martin Street                    |
| 4   | Seasons Milton                     | Old age/retirement home                                | 760 Bronte Street South             |
| 5   | Birkdale                           | Old age/retirement home                                | 611 Farmstead Drive                 |
| 6   | Darling Home for Kids              | Health care facility                                   | 5657 No 15 Side Road                |
| 7   | Ernest C Drury School for the Deaf | Other Educational institution (e.g. special education) | 255 Ontario Street South<br>Dorm C4 |

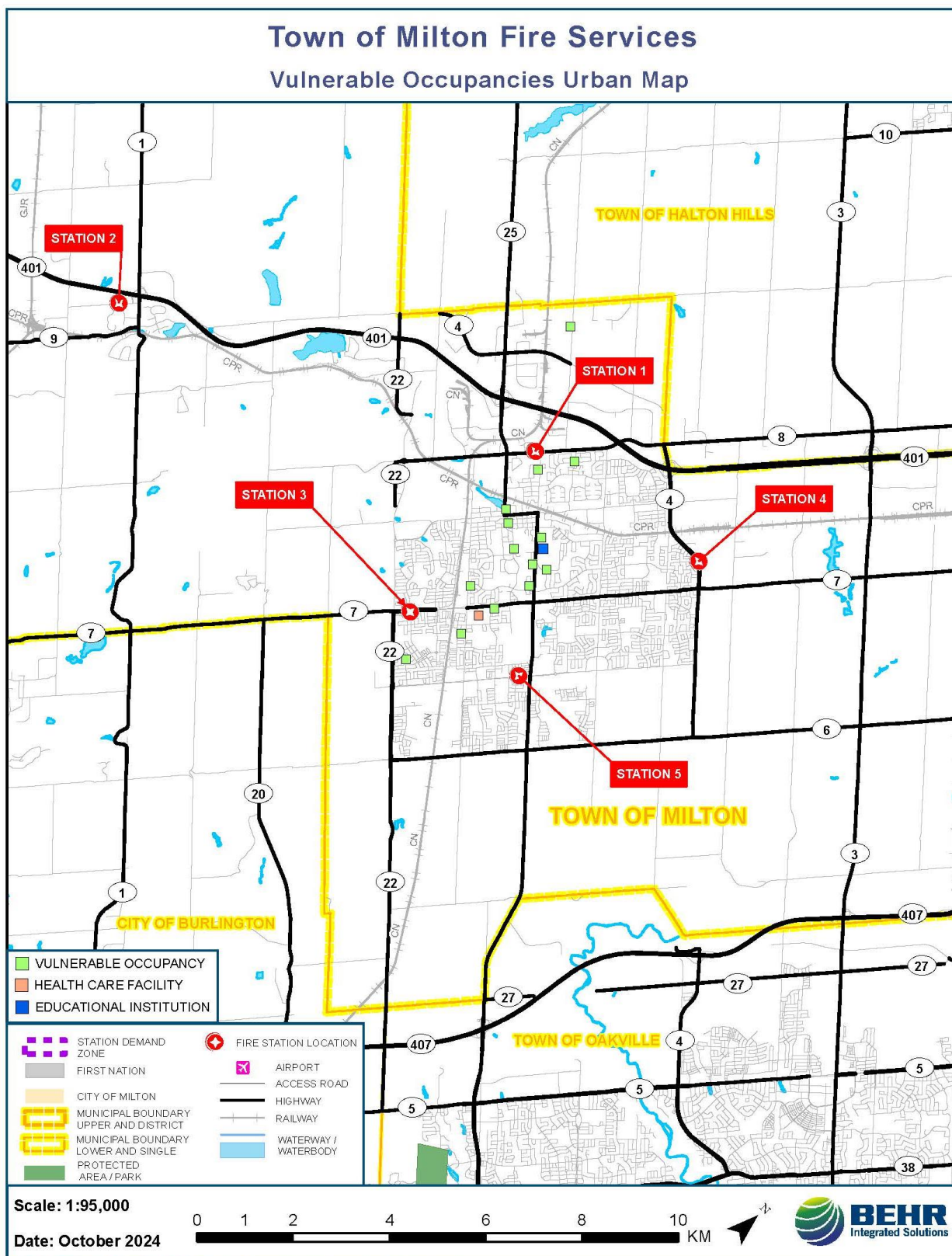
| No. | Property Name                      | Occupancy Type                                         | Location                            |
|-----|------------------------------------|--------------------------------------------------------|-------------------------------------|
| 8   | Ernest C Drury School for the Deaf | Other Educational institution (e.g. special education) | 255 Ontario Street South Dorm C6    |
| 9   | Ernest C Drury School for the Deaf | Other Educational institution (e.g. special education) | 255 Ontario Street South Building I |
| 10  | Ernest C Drury School for the Deaf | Other Educational institution (e.g. special education) | 255 Ontario Street South Building K |
| 11  | Bob Rumball Group Home             | Group Home                                             | 341 Ontario Street South            |
| 12  | Bob Rumball Group Home             | Group Home                                             | 225 Commercial Street               |
| 13  | Independent Living Halton          | Group Home                                             | 296 Ontario Street North            |
| 14  | Community Living North             | Group Home                                             | 340 Ontario Street South            |
| 15  | Community Living North             | Group Home                                             | 500 Valleyview Crescent             |
| 16  | Bob Rumball Group Home             | Group Home                                             | 10 Laurier Avenue                   |
| 17  | Christian Horizons                 | Group Home                                             | 14413 Sixth Line                    |
| 18  | Bob Rumball Group Home             | Group Home                                             | 931 Toletzka Landing                |
| 19  | Community Living North             | Group Home                                             | 251 Pine Street                     |
| 20  | Community Living North             | Group Home                                             | 348 Wilson Drive                    |
| 21  | Community Living North             | Group Home                                             | 12444 Sixth Line                    |
| 22  | Bob Rumball Group Home             | Group Home                                             | 8830 Boston Church Road             |
| 23  | Bob Rumball Group Home             | Group Home                                             | 11027 Guelph Line                   |

Map 6 identifies the property locations of the 23 identified vulnerable occupancies and Map 7 shows the properties in urban centre.

Map 6: Vulnerable Occupancies Locations



Map 7: Vulnérable Occupancies Locations Urban Centre



### 3.8.2 Other High-Fire Life Safety Risk Occupancies

From a risk perspective, it's valuable for a fire service to identify additional potential high fire life-safety risk considerations. This includes day care facilities and schools, where children, due to their age and potential cognitive or physical limitations, may face challenges in self-evacuation during emergencies. For the purposes of this CRA, potential high life-safety risk occupancy considerations encompass schools and licensed day care facilities. It's worth noting that many schools also offer before and after-school childcare services for children aged 4-12, as well as childcare centers for infants to pre-school-aged children.

Conducting pre-planning activities for all occupancies with vulnerable occupants would be beneficial for the MFRS. Pre-planning activities increase fire service personnel's familiarity with buildings of special interest and help reduce the risk faced by vulnerable individuals or vulnerable occupancies. These activities may include:

- Regularly scheduled fire safety inspections
- Approving and witnessing fire drill scenarios
- Providing public education on fire safety issues
- Encouraging fire drills
- Conducting pre-planning exercises to increase fire service personnel's familiarity with the facility
- Reviewing fire safety plans for accuracy and encouraging facility owners to update facilities as needed
- Providing staff training

### 3.9 Historic or Culturally Significant Buildings

An understanding of the location of historic or culturally significant buildings or facilities is an important consideration within the building stock profile of a Community Risk Assessment. Such buildings or facilities may be keystone features of the community, providing a sense of heritage, place, and pride, and contributing to the overall importance of the community. Regular fire inspections of these buildings are essential, especially if they serve as tourism destinations, as fire incidents could have significant economic impacts.

Historic areas can present a high fire risk due to their age and the materials used to construct the buildings, as well as exposure cycles. Strategies to enforce continued compliance with the OFC are considered best practices for achieving the legislative responsibilities of the town and providing an effective fire protection program to address fuel load risks.

The Town of Milton regulates numerous heritage properties through its municipal heritage register, under the Ontario Heritage Act. This register encompasses properties designated for preservation under Section 29, Part IV, as well as those recognized by the Council for their cultural heritage significance under Section 27, Part IV. Properties listed under Section 27 require approval prior to demolition. Milton has identified 78 Heritage Properties. Table 15 provides a list of properties designated as heritage properties by the municipality.

Table 15: Heritage Properties

| No. | Property Name                                 | Address                                        | Year of Construction |
|-----|-----------------------------------------------|------------------------------------------------|----------------------|
| 1   | Salem United Church and Cemetery              | 19041 County Road 2                            | 1877                 |
| 2   | St. Andrew's Presbyterian - "Old Kirk"        | 20389 Church Street                            | 1787                 |
| 3   | St. Mary's Roman Catholic Church and Cemetery | 19659 County Road 19                           | 1846                 |
| 4   | The General Store                             | Main Street                                    | 1880s                |
| 5   | The Glengarry Pharmacy                        | 14 Main Street North                           | 1830-1840            |
| 6   | The MacDonald Block                           | Main Street; Comprised of 2 separate buildings | N/A                  |
| 7   | The Merchant's Bank                           | Main Street                                    | N/A                  |
| 8   | The Real Estate Office                        | Main Street                                    | 1830-1840            |
| 9   | Bethune-Thompson House                        | 19730 John St                                  | 1783                 |
| 10  | Glengarry Cairn                               | Island                                         | N/A                  |
| 11  | Ruins of Glengarry House                      | Highway 2                                      | 1792                 |
| 12  | Sir John Johnson House                        | 19692 William St                               | 1785                 |
| 13  | St. Raphael's Ruins                           | 20000 County Road 18                           | 1821                 |
| 14  | Fairfield-Cameron House                       | 19095 County Road 2                            | 1865                 |
| 15  | Fraserfield                                   | 5137 Country Road 27                           | 1824                 |
| 16  | Glengarry Fencibles Parade Ground             |                                                | N/A                  |
| 17  | Iona Academy                                  | 4739 Frog Hollow Road                          | N/A                  |
| 18  | Martintown Grist Mill                         | 18544 Dundas Street                            | 1847                 |
| 19  | Premier John Sandfield MacDonald Farm         | 119 Military Road                              | N/A                  |
| 20  | Royal Canadian Legion                         | 5793 Church Avenue                             | N/A                  |

| No. | Property Name                                           | Address                                   | Year of Construction |
|-----|---------------------------------------------------------|-------------------------------------------|----------------------|
| 21  | St. Andrew's United Church & Graveyard                  | 19730A County Road 17                     | 1812                 |
| 22  | Workers Cottage                                         | 19408 Gore Road                           | 1840                 |
| 23  | 19408 Gore Road                                         | 5227 County Road 27                       | 1828                 |
| 24  | Avondbloem - The MacGillivray House                     | 20017 County Road 18                      | 1821                 |
| 25  | Bishop's House Property and Cultural Heritage Landscape | 18947 South Branch Road                   | 1924                 |
| 26  | Finlay Grant Farm                                       | 19408 Gore Road                           | N/A                  |
| 27  | Finnan (The Buffalo) MacDonald                          | 21831 Concession 2 Road                   | 1828                 |
| 28  | John Curry House                                        | 195 Military Road                         | 1806                 |
| 29  | Lancaster Public Library                                | 4792 2nd Line Road                        | 1902                 |
| 30  | LeClair House                                           | 18269 North Branch Road                   | 1886                 |
| 31  | Munro Home                                              | 19651 John Street                         | 1785                 |
| 32  | Nor-Westers' and Loyalists Museum                       | 20399 Water Street                        | N/A                  |
| 33  | Rayside/Dunlop House                                    | 18540 Kirk Street                         | 1789                 |
| 34  | St. Andrew's United Church and Graveyard                | 19118 County Road 18                      | 1804                 |
| 35  | Stone Farmhouse William Ross-Peter McCuaig Farmhouse    | 119 Military Road                         | 1825                 |
| 36  | Alex MacDonald Grocery                                  | 19688 County Road 19                      | 1904                 |
| 37  | Bethune Cottage                                         |                                           | N/A                  |
| 38  | Cameron House                                           | 6400 County Road 27                       | 1853                 |
| 39  | Carmichael/ MacPherson Cottage                          | 6387 Cairn View Road                      | N/A                  |
| 40  | Chattaan House                                          | 19703 John Street                         | 1840s                |
| 41  | Fairfield Estate                                        | 19119 County Road 2                       | N/A                  |
| 42  | Faulkner's Settlement Cemetery                          | Northwest Corner of Water & Calvin Street | N/A                  |
| 43  | Flowerdale Cottage or Inn                               | 20390 Old Montreal Road                   | N/A                  |
| 44  | General Store                                           |                                           | N/A                  |
| 45  | Glengarry Celtic Music Hall of Fame                     | 19687 William Street                      | N/A                  |

| No. | Property Name                            | Address                                         | Year of Construction |
|-----|------------------------------------------|-------------------------------------------------|----------------------|
| 46  | Gleninore Cemetery Cairn                 | South side of Glen Road, East of County Road 27 | 1800s                |
| 47  | Granary                                  | 18280 County Road 18                            | 1810                 |
| 48  | Inkerman Cottage                         | 20358 Old Montreal Road                         | N/A                  |
| 49  | Knox United Church                       | 1 Molan Street                                  | 1876                 |
| 50  | MacKenzie/ Henderson House               | 19539 Glen Road                                 | N/A                  |
| 51  | Martintown Mill                          | 18585 Dundas Street                             | 1846                 |
| 52  | Maryvale Abbey                           |                                                 | N/A                  |
| 53  | Precious Blood Parish                    | 18314 County Road 2                             | 1907                 |
| 54  | Prison/ Fire Hall                        |                                                 | N/A                  |
| 55  | Round Church                             | 21837 Round Church Road                         | N/A                  |
| 56  | Russell/ Harper House                    | 6368 King Street                                | N/A                  |
| 57  | S.B. MacIntosh & Son Grocery             |                                                 | N/A                  |
| 58  | School House/ Sergeant's Mess            | 20426 Old Montreal Road                         | N/A                  |
| 59  | Sir John Johnson Mills                   | 19692 William Street                            | N/A                  |
| 60  | South Lancaster Kirktown Wharf           | End of King Street, South of Water Street       | N/A                  |
| 61  | St. Andrew's Presbyterian - "Old Kirk"   | 4866 County Road 20                             | N/A                  |
| 62  | St. Andrews United Church                | 21102 Concession Road 2                         | 1886                 |
| 63  | St. Andrews United Church "Round Church" | 21873 Round Church Drive                        | N/A                  |
| 64  | St. John the Evangelist                  | 20788 South Service Road                        | 1898                 |
| 65  | St. Joseph's Parish                      | 16 Maple Road                                   | 1904                 |
| 66  | St. Lawrence Parish                      | 4th Line Road                                   | 1959                 |
| 67  | St. Margret's of Scotland                | 21505 Butternut Lane                            | 1882                 |
| 68  | St. Mary of Assumption                   | 4172 County Road 34                             | 1956                 |
| 69  | St. Mary's Parish                        | 19659 County Road 19                            | 1847                 |
| 70  | St. William's Parish                     | 18512 Dundas Street                             | N/A                  |
| 71  | The Bridge                               | Bridge Street                                   | 1981                 |
| 72  | The Brown House                          | 20363 Concession 5 Road                         | 1857                 |

| No. | Property Name                      | Address                 | Year of Construction |
|-----|------------------------------------|-------------------------|----------------------|
| 73  | The Grand Hotel                    | 18526 Dundas Street     | 1800s                |
| 74  | The Manse                          | 20391 Water Street      | N/A                  |
| 75  | The Massop/ McLennan/ Marchant Inn | 20378 Old Montreal Road | N/A                  |
| 76  | The Miller/ Brown Stagecoach Inn   | 20386 Old Montreal Road | N/A                  |
| 77  | The Moosehead Inn                  | 20373 Old Montreal Road | N/A                  |
| 78  | The Stickler House                 | 20376 Knox Street       | N/A                  |

A fire department can help reduce the risk of fire within heritage properties through several measures, including:

1. Regularly scheduled fire safety inspections to ensure compliance with fire safety regulations
2. Enforcement of the Ontario Fire Code to address any violations and ensure proper fire safety measures are in place
3. Regular review of fire safety plans for accuracy and effectiveness in mitigating fire risks
4. Encouraging facility owners to upgrade facilities as needed to improve fire safety standards and reduce potential fire hazards

### 3.10 Building Stock Profile – Identified Risks and Key Findings

Table 16: Building Stock Profile – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Risk               | Group C residential occupancies represent 89.65% of the town's existing occupancies. Additionally, 83.51% of structure fire losses, 85.71% of civilian fire-related injuries, and 100% of fire-related fatalities occurred in Group C occupancies (from January 1, 2018, to December 31, 2022). |
| Identified Risk               | Information from MPAC data indicates that approximately 15.68% (5,830 properties) of the town's building stock was constructed before 1981, prior to the adoption of the 1981 Ontario Fire Code (OFC).                                                                                          |
| Identified Risk               | According to MPAC data, there are 44 buildings over 100,000 square feet and 2 buildings over 1,000,000 square feet in the town.                                                                                                                                                                 |
| Identified Risk               | 70 properties in Milton have been identified as having a potentially high fuel load, leading to an increased fire risk.                                                                                                                                                                         |
| Identified Risk               | The town has identified 78 heritage properties. These historic areas can present a high fire risk due to the age of the buildings, the materials used in their construction, and their exposure to other risks.                                                                                 |
| Identified Risk               | Milton's population is expected to increase by approximately 152.8% by 2051.                                                                                                                                                                                                                    |
| Identified Risk               | The Town of Milton currently has 23 occupancies that have been identified as a potential vulnerable occupancy.                                                                                                                                                                                  |
| Identified Risk               | The permitting of additional dwelling units allows for increased occupants in residential building, and MFRS doesn't have access to identifying these building prior to an incident.                                                                                                            |
| Key Finding                   | The Town of Milton currently has 24 identified high-rise buildings, with 36 identified as under-construction or proposed for development. MFRS must continue to monitor increased risks.                                                                                                        |

## Section 4

### Critical Infrastructure Profile

Critical infrastructure refers to the systems, facilities, and assets crucial for the functioning of society and the economy. As referenced in **O. Reg. 378/18**, the critical infrastructure profile assessment includes analyses of the capabilities and limitations of critical infrastructure, such as electrical distribution, water distribution, telecommunications, hospitals, and airports. The following section considers these critical infrastructure characteristics within the Town of Milton.

#### 4.1 Critical Infrastructure in the Town of Milton

Ontario's Critical Infrastructure Assurance Program defines critical infrastructure (CI) as "interdependent, interactive, interconnected networks of institutions, services, systems, and processes that meet vital human needs, sustain the economy, protect public health, safety and security, and maintain continuity of and confidence in government." The program identifies nine critical infrastructure sectors: continuity of government, electricity, financial institutions, food and water, health, oil and natural gas, public safety and security, telecommunications, and transportation networks. Infrastructure is a complex system of interconnected elements where the failure of one could lead to the failure of others. The vulnerability of infrastructure is often linked to the degree to which one infrastructure component depends upon another. Therefore, it is critical that these elements be viewed in relation to one another and not in isolation.

For the purposes of this CRA, Town of Milton-specific CI concerns are described in greater detail below.

#### **4.1.1 Water Servicing & Infrastructure**

The Milton Treatment and Distribution Subsystem consists of two well fields: Kelso and Walker's Line. Four wells in the Kelso well field pump raw water into the Kelso Water Treatment Plant (WTP). The treatment includes greensand filters for manganese removal and disinfection using chlorine. The treated water is pumped from the WTP to the Milton Reservoir and then flows by gravity into the Milton distribution system. The Walkers Line well field consists of one production well. Water from the well is disinfected with chlorine and pumped into the Milton Surge Tank which is located just off 12th Side Road. From the surge tank the water is fed by gravity into the distribution system. The Milton Treatment and Distribution Subsystem is controlled through a Supervisory Control and Data Acquisition (SCADA) system that is monitored twenty-four hours per day, seven days per week.<sup>20</sup>

Water supply is a critical infrastructure that is essential for firefighting. Having access to the city's water delivery systems is critical to service delivery. The city is serviced by a system of water mains maintained by Halton Region. The majority of the regional water is obtained from Lake Ontario and the remainder from underground wells and Lake Simcoe.

#### **4.1.2 Stormwater & Sanitary Servicing & Infrastructure**

Stormwater facilities are engineered to gather and regulate runoff from precipitation, including rain and snowmelt, thereby reducing the risk of flooding, erosion, and damage to property and infrastructure. Storm sewers, which are underground pipelines, are designed to collect and transport stormwater runoff to nearby water bodies such as rivers and lakes. By preventing stormwater from flooding streets and buildings, storm sewers help manage water quality and quantity in natural water bodies.

Stormwater services play a critical role in managing and controlling the flow of stormwater runoff during precipitation events, mitigating challenges and impacts associated with flooding. This becomes especially relevant when considering the effects of climate change.

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<sup>20</sup> (The 2023 Annual Drinking Water Quality Report, 2023)

Halton Region owns, operates, and maintains the Halton Region Stormwater Management System (SMS). Halton Region's SMS provides effective stormwater management and protects its residents from the negative effects of precipitation during weather events and snowmelt along the regional road network. This SMS consists of a comprehensive network of sewers, culverts, catch basins, maintenance holes, oil grit separators (OGS), ditches, swales, and stormwater management ponds, chambers, and pumping stations. Halton Region's SMS is interconnected with the lower tier municipalities (City of Burlington, Town of Halton Hills, Town of Milton, and the Town of Oakville) stormwater networks, however, Halton Region's stormwater network is not combined with its sanitary system.<sup>21</sup>

Sanitary sewers, on the other hand, are underground pipelines that transport wastewater from residences, commercial establishments, and industries to treatment plants for purification before discharge into rivers or lakes. The proper operation of sanitary sewers is essential for preventing the spread of diseases, safeguarding public health, and preserving the environment. Any disruption to sanitary sewer operations can result in significant impacts on public health and the environment, underscoring the need to recognize them as part of critical infrastructure.

Halton Region's wastewater collection system (WWCS) is comprised of works for the collection and transmission of wastewater, and consists of trunk and local sewers, wastewater pumping stations, force mains and one in-line storage tank. There are 1,910.94 km of sewers, which include a combination of gravity sewers (1,827.67 km), force mains (73.35 km), inline storage (0.41 km), and siphons (0.25km). There are 83 wastewater pumping stations and approximately 29,288 maintenance holes. The town of Milton has 5 wastewater pumping stations:<sup>22</sup>

- Britannia Rd Pumping Station
- Fulton St Pumping Station
- Laurier Ave Pumping Station
- Midblock Pumping Station
- Tremaine Road Pumping Station

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<sup>21</sup> (Stormwater Management System Performance Report, 2023)

<sup>22</sup> (Wastewater Collection Systems Performance Report, 2023)

### **4.1.3 Transportation Infrastructure**

Transportation infrastructure encompasses highways, railways, airports, seaports, and public transit systems. It plays a crucial role in enabling economic activity, ensuring public safety, facilitating social mobility, and promoting environmental sustainability. Disruptions to transportation infrastructure can have significant impacts on the functioning of municipalities and the economy, underscoring the importance of protecting and maintaining it.

The following section offers an overview of the town's transportation infrastructure. Additional details on the transportation systems in the Town of Milton are provided in the Geographic Profile.

#### **4.1.3.1 Roads & Highways**

As described in the Geographic Profile, the Town of Milton has a network of essential highways linking it to neighboring regions, including Toronto, Guelph, Hamilton, and Kitchener. Highway 401 serves as a primary route, supported by Highway 6, as well as major County-level roads, such as Brock Road South, which serves as a commuter route into the City of Guelph.

Major highways and roads are of concern from the perspective of fire protection services due to the following factors:

- Incidents involving hazardous materials transport
- Motor vehicle collisions are a significant driver of call volume. Between 2018 and 2022 the number of vehicle collisions has increased by 31% and accounts 18.4% of the total call volume.
- Multi-lane and vehicle collisions can obstruct lane access for responding apparatus
- Traffic hazards (distracted drivers, high-speed movement, hazardous waste spills) present safety considerations for responding crews.

The Town responded to 1,795 emergency calls responded to between 2018 and 2022 pertain to motor-vehicle related incidents, this represents 92.05% of rescue calls and 18.40% of all calls responded to by MFRS during that period.

#### **4.1.3.2 Rail**

The Guelph Junction Railway runs north/south through the northeastern border of the town and Canadian Pacific Railway operates track running east/west across the southern border of the town. Rail lines and operations are of concern from the perspective of fire protection services due to the following factors:

- Accidents involving transportation of hazardous cargo could result in release hazardous material requiring hazardous materials response
- Potential for explosions, fires, and destabilization of surrounding structures
- For passenger train derailments or collisions, passenger and rail employee extrication and technical rescue may be required
- Difficulty accessing scene
- Major incidents resulting in long term recovery could delay daily shipment of goods and services, with potential negative affects to local economy.
- Potential risk for grass and brush fires along the track areas and threat to adjacent residential properties
- A potential new inter-modal rail yard will need to be monitored for future risk and the CRA adjusted as appropriate.

#### **4.1.3.3 Airports**

There are no commercial or freight related airports in the Town. However, there are several flight paths located directly above Milton including planes travelling to and from the Toronto Pearson Airport. The Burlington Executive Airport located in Burlington and Toronto Pearson International Airport, located in Mississauga are both in close proximity to Milton. Airports and their operations are of concern from the perspective of fire protection services due to the following factors:

- Accidents involving planes during landing and takeoff
- Difficulty in locating and accessing scenes
- Requirement for technical rescues of passengers
- Potential for fire or destabilization of structures if impacted by a plane

#### **4.1.4 Energy and Communications Infrastructure**

Energy infrastructure comprises the systems, facilities, and assets involved in generating, transmitting, and distributing electricity, and gas within the municipality. In the Town, Milton Hydro serves as the local utility for electricity, while Union Gas provides natural gas services.

Energy and utility infrastructure are significant considerations for fire protection services due to several reasons:

- The natural gas subsector poses operational hazards to first responders, including leaks, personal injury, and exposure to toxic or hazardous materials
- There is potential for explosion and/or fire within these facilities.
- Emergency incidents could result in limited gas supply across the town
- Firefighter safety is a concern when responding to fires at electrical substations, which may involve high-voltage electrical hazards, and the presence of chemicals used to cool electrical conductors
- Disruptions to the electrical distribution system could affect emergency communication systems and municipal power supply, leading to various public health and safety concerns requiring fire department assistance
- Disruptions of cellular network services or internet connectivity may lead to impacts to communications, information sharing, and network access to critical infrastructure. This could include the public being able to contact 911 for emergencies.

Communications infrastructure is also considered critical infrastructure because it provides essential connectivity and communication services for daily life and the economy. This includes systems, facilities, and assets enabling the transmission and reception of voice, data, and video communications.

In the Town of Milton, the combined energy and communications infrastructure includes hydro lines and towers, pipelines, transmission lines, communications fiber lines and towers. These components play vital roles in maintaining connectivity, facilitating communication, and supporting emergency response efforts within the town.

The most pertinent risk arising from these utilities relates to fallen hydro lines. Between 2018 and 2022 MFRS responded to 102 incidents for fallen hydro lines which is 15.86% of all public hazard calls.

#### **4.1.5 Other Critical Infrastructure Considerations**

General considerations and concerns related to each CI sector as it pertains to the provision of fire protection services for other critical infrastructure sectors are included in Table 17.

Table 17: Critical Infrastructure Overview

| Sector | Identified Critical Infrastructure | Issues / Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Health | Long-Term Care                     | <ul style="list-style-type: none"> <li>Disrupting large numbers of people with mobility issues</li> <li>Potential communication issues</li> <li>Need for specialized medical equipment</li> <li>There is 1 long-term care facility identified in the town</li> <li>There are 3 registered retirement homes and 1 correctional facility</li> </ul>                                                                                                                                                                                                                                             |
| Health | Outbreak/Illness                   | <ul style="list-style-type: none"> <li>A major outbreak or illness can create unexpected shortages in the workforce</li> <li>Reduced staffing can result in an inability to run an apparatus, as well as affect ambulance and police services for widespread illnesses</li> <li>Illnesses and outbreaks can also increase medical calls and have an increased cost in replenishing medical PPE</li> </ul>                                                                                                                                                                                     |
| Health | Health Centres                     | <ul style="list-style-type: none"> <li>There is one major hospital (Milton District Hospital)</li> <li>There are numerous privately owned and operated walk-in clinics and doctors' offices in the town</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |
| Food   | Food Supply and Demand             | <ul style="list-style-type: none"> <li>Food related infrastructure can include agriculture, major distribution centres or grocery stores.</li> <li>Grocery stores and food distribution centres typically contain large amounts of ammonia used as a component of refrigeration systems</li> <li>Fire responders should be aware of dangers related to an ammonia – preplanning for release and response protocols should be considered</li> <li>Gordon Food services food distribution company is a large (145,000 sq/ft) food storage and distribution company located in Milton</li> </ul> |

| Sector        | Identified Critical Infrastructure | Issues / Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety        | Fire and Emergency Services        | <ul style="list-style-type: none"> <li>There are 5 fire stations located in the town</li> <li>Frequent or extreme emergency events could increase demand for emergency response services affecting the response capacity of the fire department</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Government    | Municipal Government               | <ul style="list-style-type: none"> <li>Municipal government closed due to extreme weather, cyber-attack, health emergency, location, civil disruption causes disruption to decision making, financial support, declaration of emergencies etc.</li> <li>Municipal services are often interconnected, therefore the failure of one may lead to the failure or damage to other services or loss of continuity of operations</li> </ul>                                                                                                                                                                                                                                                                                                          |
| Manufacturing | Supply Chain Disruption            | <ul style="list-style-type: none"> <li>Prolonged disruptions to supply chains can impact apparatus replacement due to manufacturing delays (resulting in them going over lifetime)</li> <li>Supply disruptions also have an unforeseeable but potentially impactful financially impact on running apparatus, as well as the ability to obtain/replenish PPE</li> </ul>                                                                                                                                                                                                                                                                                                                                                                        |
| Manufacturing | Industrial Sites                   | <ul style="list-style-type: none"> <li>According to the Town of Milton Economic Development, in 2023 the second most leading industry is manufacturing</li> <li>Manufacturing facilities constitute a special fire hazard due to high levels of combustible, flammable or explosive content and the possible presence of oxidizing chemicals and gases.</li> <li>Milton has 690 industrial properties (see Building stock profile) which is 1.67% of the building stock</li> <li>98% of the industrial occupancies are F2 which are typically manufacturing</li> <li>There are 4 properties classified as high risk industrial (F1) including a pulp and paper mill, 2 automotive parts production plants and a compressor station</li> </ul> |

## 4.2 Critical Infrastructure – Identified Risks and Key Findings

Table 18: Critical Infrastructure – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                          |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key Finding                   | Approximately 1,795 emergency calls between 2018 and 2022 were motor vehicle-related incidents. This represents 92.05% of all rescue calls and about 18.40% of all calls responded to by MFRS during that period.  |
| Key Finding                   | The most significant risk related to utilities involves fallen hydro lines. Between 2018 and 2022, MFRS responded to 102 incidents involving fallen hydro lines, accounting for 15.86% of all public hazard calls. |

## Section 5

### Demographic Profile

As referenced in **O. Reg. 378/18**, the demographic profile assessment includes analysis of the composition of the community's population, respecting matters relevant to the community such as population size and dispersion, age, gender, cultural background, level of education, socioeconomic make-up, and transient population. The following sections consider these demographic characteristics within the Town of Milton.

#### 5.1 Population and Dispersion

Table 19 highlights the significant growth experienced by the Town of Milton over a twenty-year period from 2001 to 2021, in both population and total private dwellings. The most substantial increases occurred between 2001 and 2006, with a change of 71.39% in population and 73.15% in total private dwellings. These rates of increase have continued steadily since then.

Table 19: Historic Growth in Population and Households – Town of Milton

| Year | Population | % Change | Total Private Dwellings | % Change |
|------|------------|----------|-------------------------|----------|
| 2001 | 31,471     | -1.97    | 10,933                  | 4.37     |
| 2006 | 53,939     | 71.39    | 18,930                  | 73.15    |
| 2011 | 84,362     | 56.40    | 28,049                  | 48.17    |
| 2016 | 110,128    | 30.54    | 34,257                  | 22.13    |
| 2021 | 132,979    | 20.75    | 40,040                  | 16.88    |

Table Source: (Statistics Canada, 2021)

##### 5.1.1 Growth by Neighbourhood

Table 20, below on page 65 provides a detailed analysis of the population distribution across the core neighborhoods in the city. Notably, Trafalgar, Willmott, Coates, Harrison, Clarke, Nassagaweya, and Scott are expected to experience the most significant growth between 2023 and 2030, with Trafalgar and Willmott leading the way. This rapid expansion highlights the importance of planning for increased infrastructure, services, and emergency response capabilities in these areas.

Table 20: Population Growth by Neighbourhood

| Neighbourhood       | 2023<br>Population | 2023-2025<br>Growth | 2025<br>Population | 2025-2030<br>Growth | 2030<br>Population |
|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| Esquesing           | 624                | -463                | 161                | -6                  | 155                |
| Dorset Park         | 5,931              | 469                 | 6,400              | 700                 | 7,100              |
| Milton Heights      | 172                | 262                 | 434                | 136                 | 570                |
| Nassagaweya         | 7,134              | 1,066               | 8,200              | 1,800               | 10,000             |
| Coates              | 11,920             | 2,334               | 14,254             | 3,646               | 17,900             |
| Cobban              | 5,430              | -5,195              | 235                | 119                 | 354                |
| Ford                | 13,083             | -3,483              | 9,600              | 1,300               | 10,900             |
| Willmott            | 14,008             | 2,892               | 16,900             | 4,496               | 21,396             |
| Clarke              | 16,288             | 312                 | 16,600             | 300                 | 16,900             |
| Walker              | 1,146              | -1,057              | 89                 | 38                  | 127                |
| Harrison            | 13,105             | 1,795               | 14,900             | 2,500               | 17,400             |
| Nelson              | 1,318              | 182                 | 1,500              | 800                 | 2,300              |
| Bowes               | 130                | 130                 | 260                | 247                 | 507                |
| Beaty               | 20,863             | -163                | 20,700             | 1,200               | 21,900             |
| Dempsey             | 11,161             | 553                 | 11,714             | 286                 | 12,000             |
| Forest Grove        | 67                 | 17                  | 84                 | -1                  | 83                 |
| Bronte Meadows      | 3,069              | -269                | 2,800              | 0                   | 2,800              |
| Timberlea           | 7,755              | 1,545               | 9,300              | 1,900               | 11,200             |
| Valley View         | 190                | -25                 | 165                | 0                   | 165                |
| Fallingbrook        | 2,176              | -476                | 1,700              | 0                   | 1,700              |
| Scott               | 14,308             | 492                 | 14,800             | 100                 | 14,900             |
| 401 Industrial Area | 1,002              | 798                 | 1,800              | 0                   | 1,800              |
| Mountain View       | 1,053              | 47                  | 1,100              | 300                 | 1,400              |
| Old Milton          | 5,322              | 2,278               | 7,600              | 1,000               | 8,600              |
| Derry Green CBP     | 83                 | 26                  | 109                | 0                   | 109                |
| Trafalgar           | 1,110              | 1,590               | 2,700              | 2,600               | 5,300              |

## 5.1.2 Population Age

Identifying a community's population by age category is a core component of developing the CRA and identifying specific measures to mitigate risks associated with a specific age group, such as seniors. Environics identifies a total population of 158,348 for the Town of Milton. The age distributions of the town's population and Ontario's population are compared in Table 21.

Table 21: Population by Age Group – Town of Milton and Ontario

| Age                          | Milton Population | Milton %      | Ontario Population | Ontario %     |
|------------------------------|-------------------|---------------|--------------------|---------------|
| 0 to 4 years                 | 10,414            | 6.58          | 683,515            | 4.81          |
| 5 to 9 years                 | 11,930            | 7.53          | 764,430            | 5.37          |
| 10 to 14 years               | 12,802            | 8.08          | 803,850            | 5.65          |
| 15 to 19 years               | 11,688            | 7.38          | 801,455            | 5.63          |
| 20 to 24 years               | 9,350             | 5.90          | 895,600            | 6.30          |
| 25 to 29 years               | 10,489            | 6.62          | 975,400            | 6.86          |
| 30 to 34 years               | 12,518            | 7.91          | 981,210            | 6.90          |
| 35 to 39 years               | 12,594            | 7.95          | 948,030            | 6.67          |
| 40 to 44 years               | 13,278            | 8.39          | 890,160            | 6.26          |
| 45 to 49 years               | 12,116            | 7.65          | 894,580            | 6.29          |
| 50 to 54 years               | 9,893             | 6.25          | 941,270            | 6.62          |
| 55 to 59 years               | 7,997             | 5.05          | 1,040,160          | 7.31          |
| 60 to 64 years               | 6,694             | 4.23          | 966,575            | 6.80          |
| 65 to 69 years               | 5,563             | 3.51          | 813,215            | 5.72          |
| 70 to 74 years               | 4,516             | 2.85          | 691,280            | 4.86          |
| 75 to 79 years               | 3,255             | 2.06          | 469,485            | 3.30          |
| 80 to 84 years               | 1,812             | 1.14          | 325,110            | 2.29          |
| 85+                          | 1,439             | 0.91          | 338,615            | 2.38          |
| <b>Total</b>                 | <b>158,348</b>    | <b>100.00</b> | <b>14,223,940</b>  | <b>100.00</b> |
| Median Age of the Population | 35.2              |               | 41.60              | -             |
| Population aged 14 and under | 35,146            | 22.20         | 2,251,795          | 15.83         |
| Population aged 55 to 64     | 14,691            | 9.28          | 2,006,735          | 14.11         |
| Population aged 65 and over  | 16,585            | 10.47         | 2,504,570          | 18.54         |

Table Source: (Statistics Canada, 2021; Environics Analytics, 2023)

The youngest demographic, comprising individuals aged 14 years and under, accounts for 22.20% of the town's total population, which is higher than the province's figure of 15.98%. In comparison, for Canada, the proportion of children was 16.30% in 2021.

Although they face a lower risk of fatality in residential occupancies compared to seniors or adults, youth in this age group remain an essential demographic for public education efforts. Therefore, directing public education and prevention programs toward this demographic holds significant value. Implementing structured education programs consistently for children and youth can effectively embed fire and life safety awareness and knowledge into future generations.

The working age population (15 to 64) represented 67.33% of the total population. In comparison, for Canada, the proportion of the population aged 15 to 64 was 64.8% in 2021.

The percentage of the population aged 65 years and older in Milton represents 10.47% of the total population, which is 7.31% lower than that of the province at 18.54%. Additionally, 9.28% of the town's population falls between the ages of 55 and 64, gradually aging into the senior demographic of 65 years and older. The population aged 35-49 represents 23.99% of the total population. This is 4.78% higher than that of the province. These demographic trends emphasize the importance of developing informed, **targeted public education programs** and risk reduction strategies within the community.

Figure 5 illustrates the age group comparisons between Milton and Ontario.

Figure 5: Percent of Population by Age Group – Town of Milton and Ontario

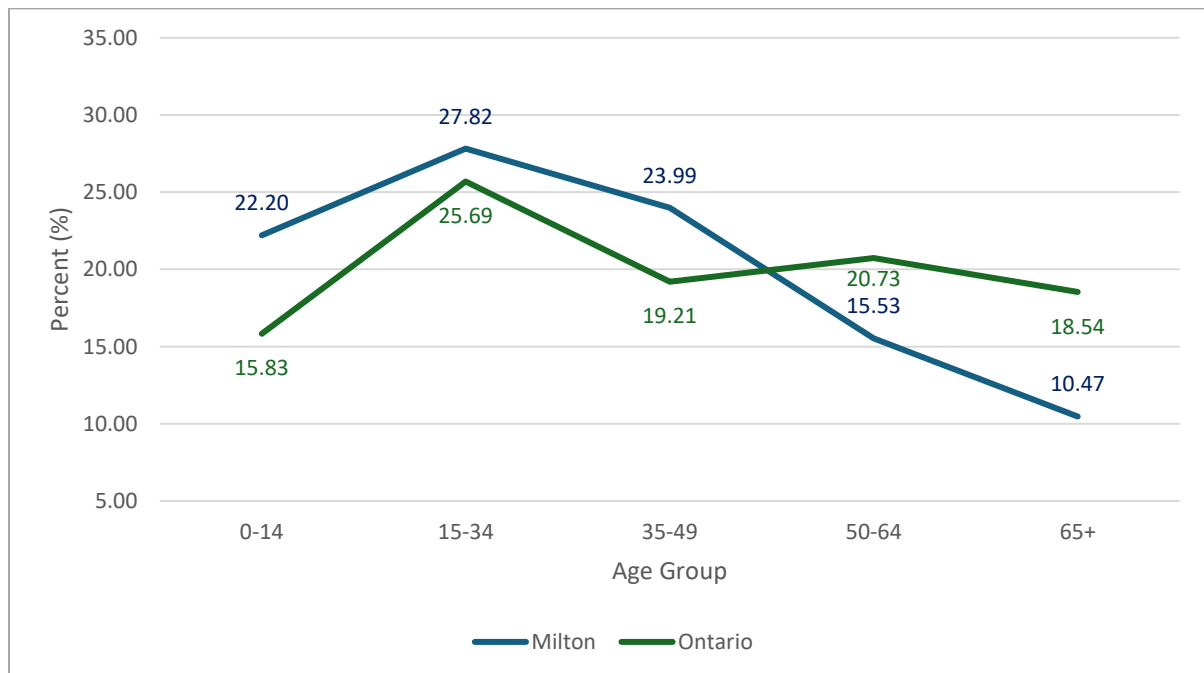


Figure Source: (Statistics Canada, 2021)

A community's population by age is an important factor in identifying specific measures to mitigate risks associated with age groups, such as seniors. Canada's aging population has emerged as one of the most significant demographic trends. According to Statistics Canada, from 2016 to 2021, Canada experienced a notable increase in the proportion of seniors since Confederation, primarily due to the baby boomer generation reaching the age of 65. Presently, there are more Canadians over the age of 65, accounting for 18.98% of the population, than there are children aged 14 years and younger, who make up 16.25%.

Seniors, defined as individuals aged 65 years and over, are regarded as one of the highest fire risk groups across the province, based on the residential fire death rate (fire deaths per million of population). Figure 6 illustrates the number of fire deaths in Ontario, between 2013 and 2022, highlighting seniors' increased vulnerability to fatality in residential occupancies compared to other age groups.

Figure 6: 2011-2020 Provincial Residential Fire Death Rate by Age of Victim

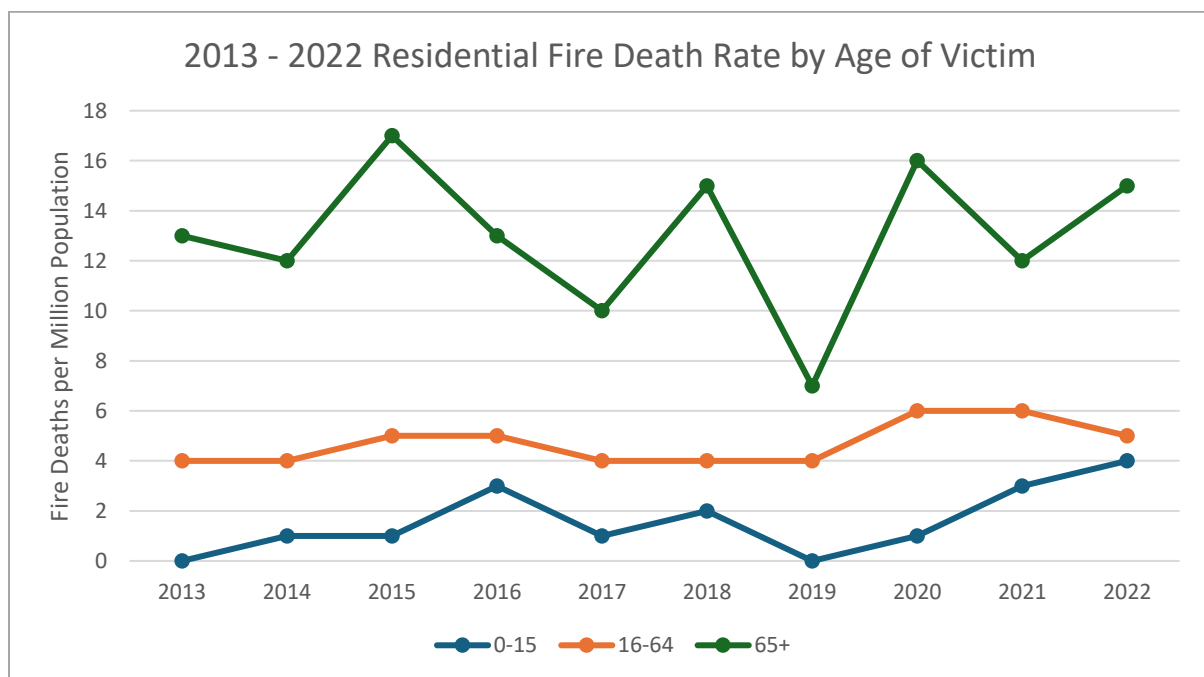


Figure Source: The Office of the Fire Marshal (OFM) investigates fatal fires in Ontario (Ontario Residential Fire Fatalities Children, Adults, Seniors 2013-2022)

## 5.2 Gender

**NFPA 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations (2019 Edition)** integrates gender considerations into Community Risk Assessments, acknowledging historical data indicating a higher incidence of fire-related injuries or fatalities among males. In the Town of Milton, Table 22 outlines the gender distribution by age, with males representing 49.70% and females 50.31%, closely aligning with the provincial gender ratio of 49.11% men and 51.10% women. This parity persists across age groups, with a minor gap emerging among individuals 0-24 (18.75% men versus 17.64% women). These statistics generally reflect provincial trends, suggesting that gender-based refinements in public education programming in Milton may not be necessary.

Table 22: Gender Distribution by Age Group – Town of Milton

| Age Group                    | Total Population | Total %    | Male          | %            | Female        | %            |
|------------------------------|------------------|------------|---------------|--------------|---------------|--------------|
| 0 to 4 years                 | 8,875            | 6.67       | 4,455         | 3.35         | 4,420         | 3.32         |
| 5 to 9 years                 | 11,055           | 8.31       | 5,665         | 4.26         | 5,395         | 4.06         |
| 10 to 14 years               | 12,050           | 9.06       | 6,260         | 4.71         | 5,785         | 4.35         |
| 15 to 19 years               | 9,520            | 7.16       | 4,925         | 3.70         | 4,600         | 3.46         |
| 20 to 24 years               | 6,880            | 5.17       | 3,630         | 2.73         | 3,250         | 2.44         |
| 25 to 29 years               | 6,880            | 5.17       | 3,430         | 2.58         | 3,450         | 2.59         |
| 30 to 34 years               | 9,270            | 6.97       | 4,310         | 3.24         | 4,965         | 3.73         |
| 35 to 39 years               | 11,375           | 8.55       | 5,265         | 3.96         | 6,110         | 4.60         |
| 40 to 44 years               | 12,415           | 9.34       | 5,890         | 4.43         | 6,525         | 4.91         |
| 45 to 49 years               | 11,040           | 8.30       | 5,665         | 4.26         | 5,375         | 4.04         |
| 50 to 54 years               | 8,530            | 6.42       | 4,510         | 3.39         | 4,025         | 3.03         |
| 55 to 59 years               | 6,700            | 5.04       | 3,470         | 2.61         | 3,230         | 2.43         |
| 60 to 64 years               | 5,155            | 3.88       | 2,570         | 1.93         | 2,585         | 1.94         |
| 65 to 69 years               | 4,375            | 3.29       | 2,005         | 1.51         | 2,375         | 1.79         |
| 70 to 74 years               | 3,890            | 2.93       | 1,810         | 1.36         | 2,080         | 1.56         |
| 75 to 79 years               | 2,400            | 1.80       | 1,125         | 0.85         | 1,270         | 0.96         |
| 80 to 84 years               | 1,400            | 1.05       | 640           | 0.48         | 755           | 0.57         |
| 85 to 89 years               | 740              | 0.56       | 315           | 0.24         | 420           | 0.32         |
| 90 to 94 years               | 345              | 0.26       | 120           | 0.09         | 225           | 0.17         |
| 95 to 99 years               | 65               | 0.05       | 20            | 0.02         | 45            | 0.03         |
| 100 +                        | 5                | 0.00       | 0             | 0.00         | 5             | 0.00         |
| <b>Total</b>                 | <b>132,965</b>   | <b>100</b> | <b>66,080</b> | <b>49.70</b> | <b>66,890</b> | <b>50.31</b> |
| Population aged 14 and under | 31,980           | 24.05      | 16,380        | 12.32        | 15,600        | 11.73        |
| Population aged 15 to 64     | 87,765           | 66.01      | 43,665        | 32.84        | 44,115        | 33.18        |
| Population aged 55 to 64     | 11,855           | 8.92       | 6,040         | 4.54         | 5,815         | 4.37         |
| Population aged 65 and over  | 13,220           | 9.94       | 6,035         | 4.54         | 7,175         | 5.40         |
| Population aged 85 and over  | 1,155            | 0.87       | 455           | 0.34         | 695           | 0.52         |

Table Source: (Statistics Canada, 2021)

## 5.3 Socioeconomic Circumstances

Socioeconomic circumstances of a community are known to have a significant impact on fire risk. Socioeconomic status is reflected in an individual's economic and social standing and is measured in a variety of ways. These factors can be reflected in the analysis of socioeconomic indicators such as labour force status, educational attainment, and income as well as household tenure, occupancy, suitability, and cost.

Socioeconomic factors intersect in several ways and have direct and indirect impacts on fire risk. One such example is outlined in the OFM's Fire Risk Sub-Model. The Sub-Model refers to the relationship between income and fire risk. As one consideration, households with less disposable income may be less likely to purchase fire safety products (e.g., smoke alarms, fire extinguishers, etc.), which puts them at higher risk of experiencing consequences from a fire. Another consideration is that households living below the poverty line may have a higher number of persons per bedroom in a household and/or children who are more likely to be at home alone. These circumstances would impact both the probability and consequence of a fire. While these complex relationships between socioeconomic circumstances and the probability / consequence of a fire are not well understood, this CRA seeks to explore these factors.

The factors reviewed at a high level have been selected based on the data available from Statistics Canada. Socioeconomic factors such as income decile group and median household income have been displayed spatially throughout this section.

Factors that are highlighted in this section include:

- Labour force status
- Immigrant status
- Educational attainment
- Household tenure, occupancy, suitability, and cost

### 5.3.1 Labour Force Status

Those who are economically disadvantaged, including low-income families, the homeless, and perhaps those living alone, may experience a higher fire risk. The OFM's Fire Risk Sub-Model references several reports that suggest there is a correlation between income levels and fire risk. The reports identify the following factors:

- The higher number of vacant buildings found in low-income neighborhoods attract the homeless. This introduces risks such as careless smoking, drinking, and unsafe heating practices.

- Building owners are less likely to repair building systems (electrical, mechanical, suppression) due to affordability, increasing fire risk from improper maintenance.
- Households with lower disposable income are less likely to purchase fire safety products (i.e., smoke alarms, extinguishers, cigarette ignition-resistant furniture, etc.) due to affordability.
- Households with lower disposable income are more likely to have utilities shut off due to non-payment, leading to increased risks related to unsafe heating, lighting, and cooking practices.
- The 1981 report, “Fire-Cause Patterns for Different Socioeconomic Neighborhoods in Toledo, Ohio,” determined that the incendiary fire rate in low-income neighborhoods is 14.4 times higher compared to areas with the highest median income. Further, fires caused by smoking and children playing occurred at rates 8.5 and 14.2 times higher, respectively.
- Single-parent families are more economically challenged since there is only one income. These households also have fewer resources to arrange childcare, increasing the likelihood of fires caused by unsupervised children.
- Studies have shown that cigarette smoking is inversely related to income. In Canada, findings by the Centre for Chronic Disease Prevention and Control through the National Population Health Survey established that there were nearly twice as many smokers in the lowest income group when compared against the highest (38% vs. 21% respectively).
- Those with low education and literacy levels are inhibited in their ability to read instruction manuals and warning labels and less likely to grasp fire safety messages.

Labour force status is a possible indicator of income levels which directly influence fire risk (e.g., lower income, increased fire risk). The participation rate (i.e., the proportion of residents in the labor force) can also be an indicator of income and can be considered alongside unemployment rates (e.g., lower participation rate and higher unemployment could mean lower income, higher fire risk).

Table 23 details the labor force statistics for Milton compared to Ontario. Milton’s participation rate is lower at 56.83% than that of the province at 62.80. Milton’s employment is consistent with that of the province; however, Milton has a much lower unemployment rate of 2.62% versus 12.25% in Ontario, indicative of a healthier job market. Milton also exhibits a higher percentage of individuals not in the labour force at 43.16% compared to Ontario’s 37.20%.

Table 23: Labour Force Status – Town of Milton and Ontario

| Status                  | Milton Total | Ontario Total |
|-------------------------|--------------|---------------|
| In the Labour Force     | 89,997       | 7,399,200     |
| <i>Employed</i>         | 87,639       | 6,492,895     |
| <i>Unemployed</i>       | 2,358        | 906,310       |
| Not in the Labour Force | 68,351       | 4,383,620     |
| Total*                  | 158,348      | 11,782,820    |
| Participation Rate      | 56.83        | 62.80         |
| Employment Rate         | 55.35        | 55.10         |
| Unemployment Rate       | 2.62         | 12.25         |

Table Source: (EnviroNics Analytics, 2023; Statistics Canada, 2021)

### 5.3.2 Educational Attainment

The relationship between educational attainment and income is complex. An analysis conducted by Statistics Canada has found that high-income Canadians are generally more likely to be highly educated. Approximately two thirds (67.10%) of the top 1% had attained a university degree compared to 20.90% of all Canadians aged 15 and over.

Based on this national trend and for the purposes of this Community Risk Assessment, it is assumed that higher education leads to more disposable income and a lower fire risk. It is also assumed that households with higher disposable income are more likely to invest in fire life safety products such as fire extinguishers and smoke alarms, reducing the fire risk.

Table 24 compares educational attainment levels between the Town of Milton and the Province of Ontario using 2021 Census data. The data indicates that Milton residents generally have higher educational attainment compared to the provincial average. Milton exhibits both a lower-than-average percentage of individuals without a certificate, diploma, or degree (11.60% compared to the provincial average of 15.28%) and a higher-than-average percentage of residents with a high school diploma, as well as those holding a postsecondary certificate, diploma, or degree, in comparison to provincial averages. This trend suggests increased awareness of fire safety practices and potentially correlates with lower rates of accidental fires due to negligence.

Table 24: Educational Attainment – Town of Milton and Ontario

| Educational Attainment                       | Milton Total | Milton % | Ontario Total | Ontario % |
|----------------------------------------------|--------------|----------|---------------|-----------|
| No Certificate / Diploma / Degree            | 10,710       | 11.60    | 1,799,890     | 15.28     |
| High School Diploma or Equivalent            | 21,480       | 23.28    | 3,204,170     | 27.19     |
| Postsecondary Certificate; Diploma or Degree | 60,090       | 65.12    | 6,778,765     | 57.53     |
| Total                                        | 92,285       | 100.00   | 11,782,825    | 100.00    |

Table Source: (Statistics Canada, 2021)

### 5.3.3 Median Income

Table 25 presents median income statistics for Milton in 2020, showing higher income levels compared to the Ontario averages. The median individual income in Milton was \$47,600, which reflects an 13.45% difference compared to Ontario's median individual income of \$41,200. Similarly, the median household income in Milton was \$126,000, indicating a significant 27.78% difference from Ontario's median household income of \$91,000. Higher median incomes in Milton may indicate a more affluent community with better-resourced households, potentially leading to improved fire prevention measures and safer living conditions. However, higher income levels can also correspond to larger, more valuable properties that may pose unique challenges for firefighting and rescue operations in the event of emergencies.

Table 25: Median Income of the Town of Milton and Ontario - 2020

| Geography    | Median Income Individual | Median Income Household |
|--------------|--------------------------|-------------------------|
| Milton       | \$47,600                 | \$126,000               |
| Ontario      | \$41,200                 | \$91,000                |
| % Difference | 13.45%                   | 27.78%                  |

Table Source: (Statistics Canada, 2021)

#### 5.3.3.1 Income Decile Groups

Income can also be examined through the lens of income decile groups, which offer a rough ranking of an individual's economic status based on their relative position in the Canadian distribution of adjusted after-tax income of economic families, as defined by Statistics Canada.

Table 26 presents data on economic family income decile groups for the population in private households in Milton compared to Ontario. In Milton, 37.47% of the population falls within the bottom half of the income distribution, while 62.53% are in the top half. This distribution contrasts with Ontario, where a larger proportion (46.44%) is in the lower half of the income distribution, and 53.56% are in the top half. These statistics indicate a higher concentration of higher-income households in Milton compared to the provincial average, which can influence the community's economic resilience and potentially impact fire risk and emergency preparedness. Understanding income distribution within the community is crucial for the fire department's risk assessment and resource allocation efforts.

Table 26: Economic Family Income Decile Group for the Population in Private Households – Town of Milton and Ontario

| Decile Group                           | Milton Total | Milton % | Ontario Total | Ontario % |
|----------------------------------------|--------------|----------|---------------|-----------|
| In the bottom half of the distribution | 46,125       | 37.47    | 6,516,085     | 46.44     |
| In the top half of the distribution    | 76,970       | 62.53    | 7,515,670     | 53.56     |
| Total                                  | 123,095      | 100.00   | 14,031,755    | 100.00    |

Table Source: (Statistics Canada, 2021)

### 5.3.4 Housing Tenure

Housing tenure, particularly the rate of homeownership, serves as a significant indicator of socioeconomic status within a community. A higher rate of homeownership often suggests greater wealth, stability, and higher incomes, whereas a higher rate of rental properties may reflect lower incomes and socioeconomic challenges.

Lower homeownership rates are generally associated with higher fire risk due to several factors. Homeowners typically invest in property maintenance and are more likely to have access to fire prevention resources and insurance. In contrast, rented properties may experience higher turnover rates, potentially leading to neglect of fire safety measures by tenants or landlords.

According to Table 27, in Milton, 81.62% are owned, and 18.38% are rented. This ownership trend is notably higher than the provincial average, where 68.40% of households are owned and 31.41% are rented. The high rate of homeownership in Milton can significantly influence community stability and investment in property maintenance, indirectly impacting fire risk and emergency response dynamics.

Table 27: Household Tenure – Town of Milton and Ontario

| Household Tenure                                     | Milton Total | Milton % | Ontario Total | Ontario % |
|------------------------------------------------------|--------------|----------|---------------|-----------|
| Owner                                                | 36,182       | 81.62    | 3,755,720     | 68.40     |
| Renter                                               | 8,146        | 18.38    | 1,724,970     | 31.41     |
| Provided by Government, First Nation, or Indian Band | 0            | 0.00     | 10,510        | 0.19      |
| Total                                                | 44,328       | 100.00   | 5,491,200     | 100.00    |

Table Source: (EnviroNics Analytics, 2023; Statistics Canada, 2021)

### 5.3.4.1 Occupancy

A higher proportion of multiple persons per household can contribute to increased fire risk and potential fire loss. As shown in Table 28, the Town of Milton has a higher proportion of households with two or more occupants (87.32%) compared to the provincial rate (73.54%). This higher occupancy density within households can elevate the risk of fire incidents.

Table 28: Household Occupancy

| Household Occupancy                     | Milton Total | Milton % | Ontario Total | Ontario % |
|-----------------------------------------|--------------|----------|---------------|-----------|
| 1 Person                                | 5,619        | 12.68    | 1,452,540     | 26.45     |
| 2 Persons                               | 10,281       | 23.19    | 1,798,040     | 32.74     |
| 3 Persons                               | 8,217        | 18.54    | 872,480       | 15.89     |
| 4 Persons                               | 11,575       | 26.11    | 825,445       | 15.03     |
| 5 Persons                               | 8,636        | 19.48    | 542,700       | 9.88      |
| Total                                   | 44,328       | 100.00   | 5,491,205     | 100.00    |
| Number of persons in private households | 140,312      |          | 13,681,340    |           |
| Average household size                  | 3.17         |          | 2.49          |           |

Table Source: (EnviroNics Analytics, 2023; Statistics Canada, 2021)

### 5.3.4.2 Suitability

The 2021 Census data, as presented in Table 29, indicates that the Town of Milton is generally aligned with that of the province related to household suitability with 6.79% of the town's housing is classified as not suitable, contrasting with 6.72% in the province. Housing suitability is determined based on whether the dwelling has adequate bedrooms relative to the ages and relationships among household members, according to the National Occupancy Standard.

Table 29: Household Suitability – Town of Milton and Ontario

| Housing Suitability | Milton Total | Milton % | Ontario Total | Ontario % |
|---------------------|--------------|----------|---------------|-----------|
| Suitable            | 34,660       | 93.21    | 5,122,185     | 93.28     |
| Not suitable        | 2,525        | 6.79     | 369,015       | 6.72      |
| Total               | 37,185       | 100.00   | 5,491,200     | 100.00    |

Table Source: (Statistics Canada, 2021)

### 5.3.4.3 Housing Costs

The cost of housing often reflects a household's disposable income, which can influence their ability to invest in household fire safety measures. In Milton 25.64% of households spend 30% or more of their income on housing compared to Ontario at 24.23%, as shown in Table 30 below.

In Milton the median value of a home is \$920,000 compared to \$700,000 in Ontario, as referenced in Table 31. Additionally, the median monthly shelter costs for owned dwellings and rented dwellings are comparable. This affordability may allow residents to allocate more resources to fire safety measures, potentially lowering fire risk.

Table 30: Shelter Costs – Town of Milton and Ontario

| Shelter Costs                                                     | Milton | %      | Ontario   | %      |
|-------------------------------------------------------------------|--------|--------|-----------|--------|
| Spending less than 30% of household total income on shelter costs | 27,570 | 74.36  | 4,103,320 | 75.77  |
| Spending 30% or more of household total income on shelter costs   | 9,505  | 25.64  | 1,312,095 | 24.23  |
| Total                                                             | 37,075 | 100.00 | 5,415,415 | 100.00 |

Table Source: (Statistics Canada, 2021)

Table 31: Median Costs – Town of Milton and Ontario

| Median Costs                                      | Milton    | Ontario   |
|---------------------------------------------------|-----------|-----------|
| Median value of dwellings                         | \$920,000 | \$700,000 |
| Median monthly shelter costs for owned dwellings  | \$2,340   | \$1,440   |
| Median monthly shelter costs for rented dwellings | \$2,200   | \$1,300   |

Table Source: (Statistics Canada, 2021)

## 5.4 Cultural Background, Language Considerations

In the Town of Milton, the proportion of newcomers is higher (39.28%) compared to Ontario (29.98%). Cultural background and language considerations remain crucial factors for fire service providers when developing and delivering fire prevention and public education programs. Communication barriers, including language proficiency and literacy levels, continue to be important to address. There may still be familiarity challenges related to fire safety standards within immigrant populations, therefore, targeted education initiatives are necessary to ensure that all residents, regardless of cultural background or language proficiency, have access to essential fire safety information and resources. Table 32 summarizes the immigration status of Milton's population.

Table 32: Immigration Status – Town of Milton and Ontario

| Immigration Status                        | Milton  | Milton % | Ontario    | Ontario % |
|-------------------------------------------|---------|----------|------------|-----------|
| Non-immigrants                            | 93,448  | 59.43    | 9,437,320  | 67.26     |
| <i>Born in province of residence</i>      | 84,321  | 90.23    | N/A        | -         |
| <i>Born outside province of residence</i> | 9,127   | 9.77     | N/A        | -         |
| Immigrants                                | 61,765  | 39.28    | 4,206,585  | 29.98     |
| Non-permanent residents                   | 2,030   | 1.29     | 387,850    | 2.76      |
| Total                                     | 157,243 | 100.00   | 14,031,755 | 100.00    |

Table Source: (Environics Analytics, 2023; Statistics Canada, 2021)

Table 33 provides statistics related to knowledge of the official languages. In Milton, 90.32% of the population knows only English, while 7.77% are proficient in both English and French. Additionally, only a small percentage (1.83%) have no knowledge of English or French. However, a deeper exploration into "mother tongue" languages reveals a diverse linguistic landscape.

The predominant languages other than English spoken by Milton residents are Urdu, Arabic, Spanish, Punjabi, and Tagalog. Beyond these top languages, there is a notable presence of other language groups and specific languages contributing to the linguistic diversity of Milton. As Milton grows, it's important to address potential communication barriers arising from this diversity to ensure effective community engagement and emergency communication strategies.

Table 33: Knowledge of Official Language – Town of Milton and Ontario

| Language                   | Milton Total | Milton % | Ontario Total | Ontario % |
|----------------------------|--------------|----------|---------------|-----------|
| English Only               | 111,315      | 90.32    | 12,196,575    | 86.50     |
| French Only                | 100          | 0.08     | 39,310        | 0.28      |
| English and French         | 9,580        | 7.77     | 1,519,365     | 10.78     |
| Neither English nor French | 2,255        | 1.83     | 344,545       | 2.44      |
| Total (non-institutional)  | 123,250      | 100.00   | 14,099,795    | 100.00    |

Table Source: (Statistics Canada, 2021)

## 5.5 Transient Populations and Commuting

**Ontario Regulation 378/18** mandates the consideration of “transient populations”, referring to population shifts occurring within a community at various times during the day, week, or year. Population shifts can stem from factors like employment, tourism, and education. In some municipalities, residents routinely leave for work, contributing to increased traffic and possibly more motor vehicle collisions. Other communities may serve as major tourist destinations, leading to significant population fluctuations based on seasonal tourism activities. This can heighten the demand for fire protection services, especially concerning overnight tourism accommodations. Additionally, educational institutions can draw transient student populations who commute daily or reside in dormitories or student housing seasonally.

Student accommodations and short-term rental units present distinct fire safety challenges, often arising from the conversion of houses into boarding houses or rooming house accommodations that do not adhere to the Ontario Fire Code (OFC) or Ontario Building Code (OBC). Identifying these properties poses a challenge for fire prevention division staff tasked with enforcing fire codes.

### 5.5.1 Commuter Populations

Commuter populations represent a significant portion of Milton's labour force. Table 34 shows the commuting destination trends for the residents of the town based on 2021 Census data. Among Milton's labour force, 38.30% commute locally within their census subdivision (CSD) of residence, while 13.68% travel to nearby areas within the same Census Division (CD). Additionally, 47.83% of Milton residents commute to other locations within the same province, a significantly higher proportion than Ontario's rate of 23.50%, likely influenced by the town's proximity to major metropolitan areas.

Table 34: Commuting Destinations – Town of Milton and Ontario

| Commuting Destination*                                                      | Milton Labour Force | %             | Ontario Labour Force | %             |
|-----------------------------------------------------------------------------|---------------------|---------------|----------------------|---------------|
| Commute within census subdivision (CSD) of residence                        | 11,715              | 38.30         | 2,212,620            | 58.72         |
| Commute to a different CSD within Census Division (CD) of residence         | 4,185               | 13.68         | 653,055              | 17.33         |
| Commute to a different CSD and CD within province or territory of residence | 14,630              | 47.83         | 885,485              | 23.50         |
| Commute to a different province or territory                                | 55                  | 0.18          | 17,050               | 0.45          |
| <b>Total</b>                                                                | <b>30,585</b>       | <b>100.00</b> | <b>3,768,210</b>     | <b>100.00</b> |

\*Commuting destination for the employed labour force aged 15 years and over in private households with a usual place of work - 25% sample data

Table Source: (Statistics Canada, 2021)

Table 35 provides insights into the timing of commutes to work among Milton residents aged 15 years and over. The data reveals that most commuters leave for work during peak morning hours, with 44.75% departing between 7AM and 9AM. These patterns emphasize the significance of understanding peak commuting times for emergency planning, particularly during periods of high travel activity when motor vehicle collision calls are more likely.

Table 35: Time of Commute to Work

| Time Leaving for Work*    | Labour Force | %      |
|---------------------------|--------------|--------|
| Between 5 AM and 5:59 AM  | 2,855        | 7.81   |
| Between 6 AM and 6:59 AM  | 5,760        | 15.76  |
| Between 7 AM and 7:59 AM  | 8,535        | 23.35  |
| Between 8 AM and 8:59 AM  | 7,820        | 21.40  |
| Between 9 AM and 11:59 AM | 5,635        | 15.42  |
| Between 12 PM and 4:59 AM | 5,945        | 16.27  |
| Total                     | 36,550       | 100.00 |

\*Total time leaving for work for the employed labour force aged 15 years and over with a usual place of work or no fixed workplace address - 25% sample data

Table Source: (Statistics Canada, 2021)

## 5.5.2 Tourism

An increase in tourism can lead to heightened demand for fire protection services, particularly with overnight accommodations. The Town of Milton hosts several events and attractions annually, drawing both residents and non-residents. These events, which include annual festivals and gatherings, contribute to increased foot traffic and activity within the community. Notable festivals and events held throughout the year include:

- **Milton October Festival:** At Milton Fairgrounds - large local vendor marketplace
- **AfroJazz Fest:** One of the largest multicultural festivals in Ontario.
- **Downtown Street Festival** – Hosted by the Town of Milton

## 5.5.3 Indigenous Population

The Town of Milton has a lower proportion of Indigenous population (0.71%) compared to Ontario's average of 2.90%. The majority of those identifying as Indigenous in the Town of Milton report a single Indigenous identity, with 88.64% of these individuals having a single Indigenous response. Of these, the majority identify as First Nations (62.82%) followed by Métis (35.26%). It is crucial to monitor these populations closely, especially with new Census data, to inform the planning of public education programs and materials that cater to the unique needs and perspectives of Indigenous communities in the Town of Milton. Table 36 provides insights into the Indigenous population within the Town of Milton compared to the province.

Table 36: Indigenous Population – Town of Milton and Ontario

| Indigenous Identity                                | Milton Total | Milton % | Ontario Total | Ontario % |
|----------------------------------------------------|--------------|----------|---------------|-----------|
| Indigenous Identity                                | 880          | 0.71     | 880           | 2.90      |
| Single Indigenous Responses                        | 780          | 88.64    | 780           | 95.91     |
| <i>First Nations</i>                               | 490          | 62.82    | 490           | 64.37     |
| <i>Métis</i>                                       | 275          | 35.26    | 275           | 34.52     |
| <i>Inuk (Inuit)</i>                                | 20           | 2.56     | 20            | 1.11      |
| Multiple Indigenous Responses                      | 45           | 5.11     | 45            | 1.75      |
| Indigenous Responses not specifically listed above | 55           | 6.25     | 55            | 2.34      |
| Non-Indigenous Identity                            | 122,230      | 99.29    | 122,230       | 97.10     |
| Total                                              | 123,110      | 100.00   | 123,110       | 100.00    |
| Registered or Treaty Indian                        | 295          | 0.24     | 295           | 1.23      |
| Not a Registered or Treaty Indian                  | 122,815      | 99.76    | 122,815       | 98.77     |

Table Source: (Statistics Canada, 2021)

## 5.6 Demographic Profile – Identified Risks and Key Findings

Table 37: Demographic Profile – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Risk               | The percentage of the population aged 65 years and older in Milton is 10.47%. Additionally, 9.28% of the town's population falls between the ages of 55 and 64, gradually aging into the senior demographic of 65 years and older. |
| Identified Risk               | In the Town of Milton, the proportion of newcomers is 9.33% higher than that of the province (39.28% compared to Ontario's 29.98%).                                                                                                |
| Key Finding                   | The youngest demographic, individuals aged 14 years and under, makes up 22.20% of the town's population, which is higher than the provincial figure of 15.98%.                                                                     |
| Key Finding                   | The population aged 35-49 represents 23.99% of the town's total population, 4.78% higher than the provincial average.                                                                                                              |
| Key Finding                   | The Town of Milton has a 13.78% higher proportion of households with two or more occupants compared to the provincial average.                                                                                                     |
| Key Finding                   | 47.83% of Milton residents commute to other locations within Ontario, a significantly higher proportion than the provincial rate of 23.50%.                                                                                        |

## Section 6

### Hazard Profile

#### 6.1 Hazard Identification and Risk Assessment (HIRA)

The hazard profile assessment includes analysis of the hazards within the community, including natural hazards, hazards caused by humans, and technological hazards to which a fire service may be expected to respond, and that may have a significant impact on the community. This section considers these hazards within the Town of Milton.

A hazard is defined as a phenomenon, substance, human activity, or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Hazards can be natural, human-caused, or technological. A Hazard Identification and Risk Assessment (HIRA) is a comprehensive process to assess risks based on potential consequences and frequencies. The outcome of the HIRA assists municipalities in prioritizing risks based on their likelihood and potential to cause an emergency. Appropriate measures can then be taken to mitigate, prepare for, and respond to the risks that pose the greatest threat to reduce future losses.

Under the Local Authority Emergency Management Regulation 203/2018, municipalities are required to have an emergency plan that must include a ‘hazard and risk assessment’. The regulation does not specify which standard must be used; however, the use of a formal HIRA process is encouraged.

##### 6.1.1 Town of Milton Emergency Response Plan Risk Assessment

A CRA provides an opportunity to examine the results of a community emergency management program (CEMP) risk assessment and the impact that these identified hazards would have on a fire service. For the purposes of this CRA, a ‘fire protection services’ lens will be applied to the top hazards as identified. As a component of the risk assessment and risk analysis process, the top hazards in the community were identified as a part of the risk assessment which was revised in 2023. Hazards were assigned a risk score and risk level ranking from extreme to very low, depending on their probability and consequence. As a result of this analysis, Table 38 shows the top hazards that were identified: (note some hazards were grouped together based on similar risks).

Table 38: Town of Milton Hazards

| Hazard                     | Level of Risk |
|----------------------------|---------------|
| Infectious Disease         | High          |
| Electrical Energy          | High          |
| Winter Weather             | High          |
| Cyber Attack               | High          |
| Chemical                   | High          |
| High Wind                  | High          |
| Tornado                    | High          |
| Rail, Light Rail or Subway | High          |
| Road and Highway           | Moderate      |

Table Source: (Hazard Identification and Risk Assessment (HIRA), 2024)

To better understand the risks of hazards as they pertain to fire protection services, the top hazards have been assessed to identify possible impacts on fire protection services. Many of the potential impacts are not unique to a jurisdiction. The results of this review are presented in Table 39.

Table 39: Impacts of Hazards on Fire Protection Services

| Hazard             | Possible Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infectious disease | <p><b>Overall Impact</b></p> <p>Medically vulnerable persons are at risk. Increased use of non-recyclable PPE for staff. Critical infrastructure must be maintained with planning for staffing and acquisition of critical supplies.</p> <p><b>Fire Services</b></p> <p>Epidemic or pandemic breakout can present significant challenges to first responders causing potential fire service workplace absenteeism, and an increased demand for medical response and supplies as was illustrated during COVID 19. Fire services currently take on a large number of medical calls. PPE was severely limited and supply chain issues for all equipment impacted operations. In many cases planned programming related to inspections and public education had to be delayed or modified.</p> |

| Hazard            | Possible Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical Energy | <p><b>Overall Impact</b></p> <p>Threat of exposure fire to homes and businesses. Large-scale evacuations may be possible, with many people displaced. Evacuations with little notice may occur. Potential for damages and loss. Damage to the environment. Many larger industrial properties in the town.</p> <p><b>Fire Services</b></p> <p>May require mutual aid support. May not be equipped (with enough people or apparatus) to extinguish fire as it expands. May require specialized resources.</p>                                                    |
| Winter weather    | <p><b>Overall Impact</b></p> <p>Above ground power lines could be impacted along with road treatments, debris clearing, salt gravel or other road treatment supplies. Increase in call volume due to vehicular incidents, rescues.</p> <p><b>Fire Services</b></p> <p>Depending on the severity of the debris on roads and downed power lines, access to various sections of the road network could be limited to fire service response delaying emergency response times. Interruptions to communication towers could impact fire service communications.</p> |
| Cyber Attack      | <p><b>Overall Impact</b></p> <p>Privacy/data breach of public and/or town. Inability to perform administrative functions.</p> <p><b>Fire Services</b></p> <p>Breaches to major infrastructure could result in injury or fatalities. Breaches to databases could impede dispatch, record keeping and investigations. Breaches could result in financial loss.</p>                                                                                                                                                                                               |

| Hazard                    | Possible Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chemical                  | <p><b>Overall Impact</b></p> <p>Serious injury or fatality. Possible secondary emergencies such as fire or explosion when chemicals mixed with air, water, or other agents. Could require small- or large-scale evacuation of homes, businesses, school etc.</p> <p><b>Fire Services</b></p> <p>Depending on the severity and type of release, could pose secondary risk to firefighters on-scene. Must have proper knowledge of chemical release. May not be able to access the scene until proper back-up arrives or have proper information.</p>                                                        |
| Tornado High Wind         | <p><b>Overall Impact</b></p> <p>Above ground power lines could impact buildings or roads and winds could take down communication towers. Life safety risk, in particular to vulnerable population. Multiple areas of damage</p> <p><b>Fire Services</b></p> <p>Depending on the severity of the debris on roads and downed power lines, access to various sections of the road network could be limited to fire service response delaying emergency response times. Interruptions to communication towers could impact fire service communications. Multiple locations requiring additional resources.</p> |
| Rail/Light Rail or Subway | <p><b>Overall Impact</b></p> <p>Threat to life safety, may require evacuation. Impact to road network and environment.</p> <p><b>Fire Services</b></p> <p>Pose secondary threat of fire or explosion to responders. Requires support from rail owners. May require securing a large scene and additional support from mutual aid partners.</p>                                                                                                                                                                                                                                                             |
| Roadway/highway emergency | <p><b>Overall Impact</b></p> <p>Threat to life safety. Impact to road network, downed power lines and vehicular fires.</p> <p><b>Fire Services</b></p> <p>Pose secondary threat to responders of fire or explosion. Delayed response in accessing scene. May require support for high number of injuries/fatalities and/or rescues.</p>                                                                                                                                                                                                                                                                    |

## 6.2 Hazard Profile – Identified Risks and Key Findings

Table 40: Hazard Profile – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key Finding                   | The city's 2023 Hazard Identification and Risk Assessment (HIRA) highlights hazards that could potentially impact the ability of MFRS to effectively deliver fire protection services. |

## Section 7

### Public Safety Response Profile

#### 7.1 Public Safety Response Agencies in the Town of Milton

As required by **O. Reg. 378/18**, the Public Safety Response Profile considers the types of incidents responded to by other entities in the community, and those entities' responsibilities. These entities could include police, ambulance, fire, and other entities that may be tasked with or able to assist in some capacity the collective response to an emergency. The following sections consider these public safety response characteristics within the Town of Milton.

Public safety and response agencies refer to agencies and organizations that respond to specific types of incidents within a community that provide trained personnel and resources critical to upholding public safety. Each of these entities offers specialized skill sets in support of front-line operations. The types of response services offered might include fire protection, medical attention, rescue operations, policing activities, or dangerous goods response. In addition to responding individually to certain types of incidents, these entities work closely with one another in the event of major emergencies through a structured standardized response approach to ensure effective coordination among all response agencies.

Table 41 lists the public safety response agencies who could be able to assist the town in a collective emergency response effort and may contribute to the minimization of risk within the community. Identifying the public safety response agencies within the community can help the fire service understand the agencies that may be able to assist in the response to an emergency.

Table 41: Public Safety Response Agencies

| Public Safety Response Agency   | Types of Incidents they Respond to                                                                                                                                                                                               | Agency Role in Incident                                                                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Halton Regional Police Services | <ul style="list-style-type: none"> <li>Traffic calls, emergency calls, crowd control, public assistance</li> <li>Major crimes i.e., homicide, kidnapping, organized crime</li> <li>Investigations</li> <li>Complaints</li> </ul> | <ul style="list-style-type: none"> <li>Enforce Criminal Code</li> <li>Enforce Municipal bylaws</li> <li>Investigate cross-jurisdictional and major crimes</li> <li>Offender transport</li> </ul> |

| Public Safety Response Agency         | Types of Incidents they Respond to                                                                                                                                                                                             | Agency Role in Incident                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ontario Provincial Police (OPP)       | <ul style="list-style-type: none"> <li>Traffic incidents on Provincial Highways</li> <li>Nuclear response incidents (large scale)</li> </ul>                                                                                   | <ul style="list-style-type: none"> <li>Enforce Criminal Code</li> <li>Enforce Highway Traffic Act</li> <li>Traffic control</li> </ul>                                                                                                                                                                                                   |
| Municipal By-Law Enforcement Officers | <ul style="list-style-type: none"> <li>Violations of town by-laws</li> </ul>                                                                                                                                                   | <ul style="list-style-type: none"> <li>Enforcing by-law infractions on town roads</li> <li>Providing information on legislation and town by-laws to industry, as well as the general public</li> <li>Enforce town bylaws</li> <li>Liaise with County by- law enforcement</li> </ul>                                                     |
| Office of the Fire Marshal            | <ul style="list-style-type: none"> <li>Fire</li> <li>Large scale explosions</li> </ul>                                                                                                                                         | <ul style="list-style-type: none"> <li>Assistance with managing fire and obtaining resources beyond the capability of the town</li> </ul>                                                                                                                                                                                               |
| Halton Region Paramedic Service       | <ul style="list-style-type: none"> <li>Advanced EMT pre-hospital care</li> <li>Mass casualty incidents</li> <li>Evacuation of health facilities (hospital, nursing homes etc.)</li> <li>Disease related emergencies</li> </ul> | <ul style="list-style-type: none"> <li>Ensuring provision of paramedic services at the site of the emergency</li> <li>Ensuring continuity of paramedic services coverage is maintained throughout the remainder of the community/town</li> <li>Liaise with the Medical Officer of Health to help facilitate medical services</li> </ul> |

| Public Safety Response Agency                                   | Types of Incidents they Respond to                                                                                                                                                                                                                                                                        | Agency Role in Incident                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Medical Officer of Health                                       | <ul style="list-style-type: none"> <li>Communicable Diseases</li> <li>Health Inspection Services</li> <li>Advice on Medical Services</li> <li>Public Health Advisory</li> <li>Liaise with long term care facilities, hospitals, retirement homes, and other vulnerable populations as required</li> </ul> | <ul style="list-style-type: none"> <li>Provide information and instructions to the population on matters concerning public health</li> <li>Protect the health of the community from inherent health threats by enforcement of the applicable legislation.</li> <li>Continue delivery of established programs to ensure continuity of care and general health protection</li> </ul> |
| CANUTEC                                                         | <ul style="list-style-type: none"> <li>Hazardous spills/emissions</li> </ul>                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Product information</li> <li>Safe handling information</li> <li>emergency actions</li> </ul>                                                                                                                                                                                                                                                |
| Ministry of Environment                                         | <ul style="list-style-type: none"> <li>Spills</li> <li>Environmental disasters</li> </ul>                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Provide personnel and equipment for cleanup and remediation</li> </ul>                                                                                                                                                                                                                                                                      |
| Ministry of Labour, Immigration, Training and Skill Development | <ul style="list-style-type: none"> <li>Industrial accidents</li> <li>Workplace critical injuries and deaths</li> </ul>                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Investigate worker injury or death</li> </ul>                                                                                                                                                                                                                                                                                               |
| Ministry of Transportation                                      | <ul style="list-style-type: none"> <li>Major/large vehicle incidents on King's Highways</li> </ul>                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Traffic control</li> <li>Assist with repair and cleanup</li> </ul>                                                                                                                                                                                                                                                                          |
| Emergency Management Ontario                                    | <ul style="list-style-type: none"> <li>Large-scale emergencies requiring declaration of state of local emergency</li> </ul>                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Provincial level support</li> <li>Communication</li> </ul>                                                                                                                                                                                                                                                                                  |
| CP Police Service                                               | <ul style="list-style-type: none"> <li>Rail emergencies (on and off board)</li> <li>Rail security incidents on and-off board</li> <li>Promote rail safety</li> <li>Protect infrastructure</li> <li>Enforce Criminal Code</li> </ul>                                                                       | <ul style="list-style-type: none"> <li>Oversee response to all rail emergencies.</li> <li>Liaise with and support municipal or provincial fire and emergency services as needed for large incidents</li> </ul>                                                                                                                                                                     |

| Public Safety Response Agency | Types of Incidents they Respond to                                                                                                                                                                                                  | Agency Role in Incident                                                                                                                                                                                        |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CN Police                     | <ul style="list-style-type: none"> <li>Rail emergencies (on and off board)</li> <li>Rail security incidents on and-off board</li> <li>Promote rail safety</li> <li>Protect infrastructure</li> <li>Enforce Criminal Code</li> </ul> | <ul style="list-style-type: none"> <li>Oversee response to all rail emergencies.</li> <li>Liaise with and support municipal or provincial fire and emergency services as needed for large incidents</li> </ul> |
| Ontario SPCA                  | <ul style="list-style-type: none"> <li>Incidents involving animals</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li>Advise responders on best tactics</li> <li>Assist in enforcement</li> <li>Address animal welfare needs</li> </ul>                                                       |

The **Joint Emergency Services Operational Advisory Group (JESOAG)** is a collaborative initiative involving the Fire Departments of Milton, Oakville, Burlington, and Halton Hills, along with Halton Region Paramedic Services (HRPS), the Ontario Provincial Police (OPP), and Halton Regional Police Services (HRPS). JESOAG, comprised of senior fire, police, and emergency medical personnel, meets quarterly to discuss, and address trends from a unified incident management structure perspective. When necessary, Inter-Agency Protocols are implemented. JESOAG also routinely plans and initiates multi-agency field exercises.

The Town of Milton is part of the Halton Region Tiered Response Agreement, which includes HREMS, HRPS, and the municipalities of Oakville, Burlington, and Halton Hills. This agreement outlines specific conditions for multi-agency responses and notification criteria for each participant, while also allowing each municipal fire service to decide whether to allocate resources to assist EMS based on current fire emergencies.

### 7.1.1 Fire Protection Services Agreements and Plans

Large emergency events can quickly overwhelm the response capacity of most community fire departments in Ontario. As a result, mutual aid plans and automatic aid agreements are a necessary component in adding response capacity for these low frequencies but potentially high or extreme consequence events.

The Town of Milton has established fire protection agreements with the following municipalities:

- City of Mississauga
- Town of Halton Hills
- Town of Oakville
- City of Burlington

Table 42 provides a detailed list of the existing fire protection agreements between the Town of Milton and these surrounding municipalities.

Table 42: Fire Protection Agreements

| Municipality | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mississauga  | The City of Mississauga provides fire suppression, rescue, and emergency response services to the Town of Milton under a fire protection services agreement dated March 27, 2024.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Halton Hills | The Town of Milton provides fire suppression, rescue, and emergency response services to the Town of Halton Hills under a fire protection services agreement dated June 2, 2014.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Oakville     | The Town of Milton receives fire protection and emergency services from the Town of Oakville Fire Department through a 2003 agreement. “Fire protection and emergency services” are defined to include fire suppression, rescue, and emergency services. Under the agreement, the Town of Oakville also provides fire cause and determination and investigation services in the fire protection area described in Schedule A of the agreement.                                                                                                                                                                                                         |
| Burlington   | The Corporation of the Town of Milton and the Corporation of the City of Burlington are parties to an Automatic Aid Agreement dated April 31, 2003. The agreement outlines the areas in which Milton provides response into Burlington and those parts of Milton where Burlington provides response. Each jurisdiction is responsible for its own costs under the agreement. The agreement authorizes both parties to provide to each other “fire services” defined as “one or more emergency services customarily rendered by a Fire Service in Ontario, including firefighting or control.” The agreement does not include fire prevention services. |

The principal purpose for entering into these fire protection agreements is to promote and ensure that adequate and coordinated resources are made available when requested from, or by a neighbouring town to minimize the loss of human life and property and damage to the environment in the event of an emergency that requires such additional resources.

All inter-municipal agreements should be reviewed regularly and adjusted as required. This provides for the updating and clarification of agreements and consideration of adjustments. It may also lead to discussions regarding localized fire service response agreements and considerations about whether automatic aid in defined circumstances might be of additional value.

## Section 8

### Community Services Profile

As referenced in **O. Reg. 378/18**, the community service profile assessment includes analysis of the types of services provided by other entities in the community, and those entities' service capabilities. This includes the presence or absence and potential abilities of other agencies, organizations, or associations to provide services that may assist in mitigating the impacts of emergencies to which the fire department responds. The following sections consider these community service characteristics within the Town of Milton.

#### 8.1 Community Services

Fires and other emergency events can have devastating effects on a community and at times can overwhelm public safety and security agencies' capacity to respond. In an emergency event, community-based agencies, organizations, and associations can provide surge capacity to the response and recovery efforts of first responders and a useful resource to call upon if integrated into the emergency management framework early on. These types of affiliations can contribute a variety of capabilities essential to response and recovery efforts, including support in the areas of communications, health care, logistics, shelter, food and water supply, emergency clothing, and more specialized skill sets. Table 43 lists the community agencies and non-government organizations (NGOs) available to the Town of Milton.

Table 43: Community Service Agencies

| Community Service Agency                                                                        | Type of Assistance Provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local School Boards: Town the Halton District School Board and the Halton Catholic School Board | The youngest demographic, comprising individuals aged 14 years and under, accounts for 22.20% of the town's total population. Partnering with school boards and other agencies that work with children can provide opportunity for fire and life safety education. Arrangements have been made between the Town the Halton District School Board and the Halton Catholic School Board to provide schools for use as evacuation centres. In addition to providing facilities for evacuation centers, the school boards have also agreed to provide representatives to coordinate such use. The specific details and locations of the identified schools and representatives are confidential and are available only to Regional Emergency Control Group and Emergency Operations Centre personnel, as appropriate. The Demographic Profile found in this CRA includes a discussion of school aged children. |
| Salvation Army                                                                                  | The Salvation Army offers a food bank as well as a specialized infant food bank that provides infant formula, diapers, and supplies within the Town to those who face challenges with food security. The Salvation Army may also provide distribution service during an emergency affecting Milton residents. Provides basic and advance medical care for first aid emergencies at public events. They are also able to provide volunteer support in the event of emergency situations such natural or human disasters.                                                                                                                                                                                                                                                                                                                                                                                    |
| Victim Services Halton                                                                          | Provides immediate on-site crisis, trauma, safety & support services to victims of crime and tragic circumstances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| St Johns Ambulance                                                                              | The St. John's Ambulance offers first aid and CPR services at public recreational events within the Town, as well as a base of volunteers capable of providing first aid, CPR, and health care services in the event of a disaster within the community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Canadian Mental Health Association- Halton Branch                                               | Services and support for people experiencing mental health challenges. May be accessed for those impacted by an emergency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Community Service Agency                        | Type of Assistance Provided                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Halton Multi-cultural Council (HMC) Connections | <p>HMC Connections is a government funded, full-service settlement agency. It provides the following services to immigrants and refugees living in Halton Region:</p> <ul style="list-style-type: none"> <li>• Counselling and settlement services;</li> <li>• Assistance with basic needs;</li> <li>• Access to information relating to affordable housing and financial budgeting rights, entitlements, responsibilities, education, health care coverage and transportation;</li> <li>• Advocacy on behalf of the client with professionals (service provider, doctor, court, lawyer, etc.);</li> <li>• Assessing eligibility for social services and financial assistance;</li> <li>• Interpretation and Translation;</li> <li>• Community Connections Mentorship Program;</li> <li>• Computer classes; and</li> <li>• English Conversation Circles, generally as well as specific programs for seniors.</li> </ul> |
| Oakville and Milton Humane Society              | <p>The Oakville and Milton Humane Society is responsible for enforcing the provisions of the Ontario Society for the Prevention of Cruelty to Animals Act, while the Town enforces its animal control by-law.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Conservation Halton                             | <p>Under the Halton Region Emergency Program and Plan, the Town will consult with Conservation Halton in the event of a flood emergency. Flood warnings are made available to the public by way of the Conservation Halton's website. Flooding and erosion are natural hazards identified within Conservation Halton's watershed. The Conservation Authority's flood warning program and water control initiatives along with land use planning are efforts to protect the people and property within the watershed.</p>                                                                                                                                                                                                                                                                                                                                                                                                |

| Community Service Agency     | Type of Assistance Provided                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public Health Emergency Plan | The Emergency Plan for Public Health outlines the department's role in monitoring, preventing disease and protecting the health of the people in the event of a Public Health Emergency. The Halton Region Pandemic Influenza Response Plan identifies roles and responsibilities of internal and external partners and stakeholders and outline procedures for communications and activation. |

## Section 9

### Economic Profile

As referenced in **O. Reg. 378/18**, the economic profile assessment includes analysis of the economic sectors affecting the community that are critical to its financial sustainability. This involves economic drivers in the community that have a significant influence on the ability of the community to provide or maintain service levels. The following sections consider these economic characteristics within the Town of Milton.

#### 9.1 Economic Sectors and Employers in the Town of Milton

According to the Town of Milton, in 2023, retail trade, manufacturing, professional, scientific, and technical services, and health care are the top contributing industries to Milton's economic base. The top industries that contribute to the economic base of the town are summarized in Figure 7.

Figure 7: Town of Milton Top Industries

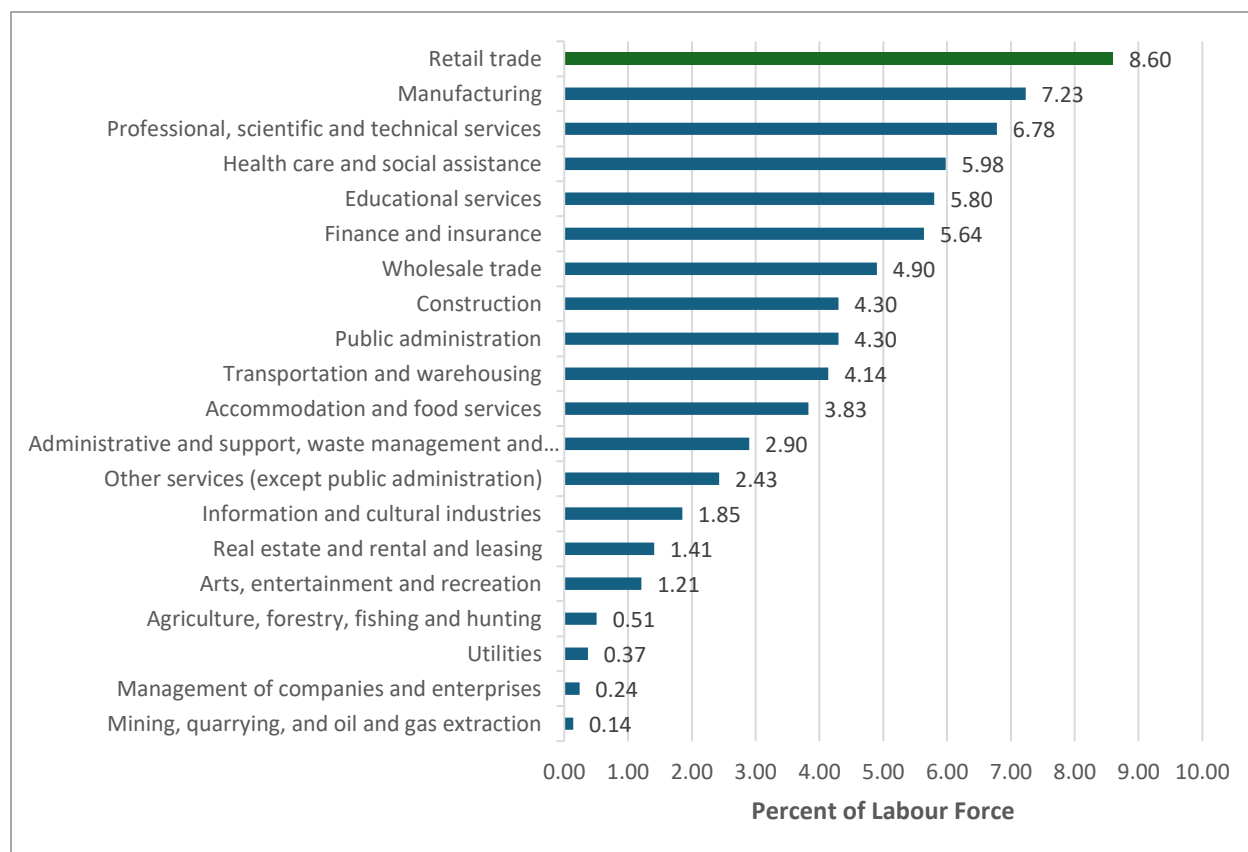


Figure Source: (Environics Analytics, 2023)

According to the Town's Economic Development Annual Report, the number of new businesses increased by 17% in 2023. The town supported over 3.8 million square feet in new Industrial, Commercial, and Institutional (ICI) expansion and streamlined the process for 9,827,899 square feet of industrial development, either newly constructed or proposed for the Derry Green Corporate Business Park. The Derry Green Business Park continues to progress, with Phase 1 focusing on distribution, logistics, and advanced manufacturing.<sup>23</sup> Notable tenants include:

- **DSV** – North American Head Office – Global Transportation and Logistics Facility
- **Edgewell Personal Care, ULC** – Distribution Warehouse Facility
- **Lululemon** – Distribution Warehouse Facility
- **Princess Auto** – Distribution Warehouse Facility (Relocating to expand to a larger facility)
- **511 Food Service**
- **ROCKWOOL** – Additional facility and further expansion of existing assets in Milton
- **General Mills**
- **Lowe's**

Certain industries, employers, and events contribute significantly to the financial sustainability and economic vitality of a community. A fire or other emergency at key sectors and employment facilities could have major impacts on the local economy and employment.

The town has identified its major employers, as shown in Table 44.

Table 44: Major Employers in the Town of Milton

| Company                           | Service/Product          | # of Employees | Address                   |
|-----------------------------------|--------------------------|----------------|---------------------------|
| Karmax Heavy Stamping             | Metal Manufacturing      | 900            | 333 Market Drive          |
| Gordon Food Services              | Food Distribution Centre | 800            | 2999 James Snow Parkway N |
| Modatek Systems                   | Vehicle/Metal Stamping   | 600            | 400 Chisholm Drive        |
| Monaghan Mushrooms Ltd.           | Distribution Centre      | 450            | 7345 Guelph Line          |
| Allendale Long Term Care Facility | Health Care/Seniors Care | 300            | 185 Ontario Street S      |

<sup>23</sup> (Economic Development Annual Report, 2023)

| Company                           | Service/Product         | # of Employees | Address                 |
|-----------------------------------|-------------------------|----------------|-------------------------|
| Loblaw (Real Canadian Superstore) | Grocery                 | 300            | 820 Main Street         |
| Uline Canada Corp                 | Storage/Warehousing     | 300            | 3333 James Snow Parkway |
| Eaton Industries Ltd              | Equipment Manufacturing | 250            | 610 Industrial Drive    |
| Vanier Centre for Women           | Correctional Facility   | 250            | 655 Martin Street       |
| Milton District Hospital          | Health Care             | 200            | 725 Bronte Street S     |
| Town of Milton                    | Public Services         | 200            | 150 Mary Street         |
| Walmart                           | Department Store/Retail | 200            | 1280 Steeles Avenue E   |
| Parker Canada                     | Aerospace Manufacturing | 200            | 160 Chisholm Drive      |

Milton has identified several major employers in various industries in the private sector, several of them being in the manufacturing industry. Certain industrial operations may have increased fuel loads and conduct higher risk activities. Proactive inspections should target these facilities to ensure compliance with codes, maintenance, and emergency planning requirements.

## 9.2 Economic Profile – Identified Risks and Key Findings

Table 45: Economic Profile – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key Finding                   | There are 13 major employers identified, each with more than 200 employees, that significantly contribute to the economic vitality of the community.                                                                                                                                                                          |
| Key Finding                   | The number of new businesses increased by 17% in 2023, alongside over 3.8 million square feet of expansion in Industrial, Commercial, and Institutional (ICI) space. Additionally, 9,827,899 square feet of industrial development has been either newly constructed or proposed for the Derry Green Corporate Business Park. |

## Section 10

### Past Loss & Event History Profile

As referenced in **O. Reg. 378/18**, the past loss and event history profile assessment includes analysis of the community's past emergency response experience, including an analysis of the number and types of emergency responses, injuries, deaths, and dollar losses, and a comparison of the community's fire loss statistics with provincial fire loss statistics. Evaluation of previous response data will inform decisions on fire protection services delivery, including public fire safety education and inspection programs. The following sections consider these past loss and event history characteristics within the Town of Milton.

The analysis within this section is based on the OFM's Standard Incident Reporting (SIR) for the period of January 1st, 2018, to December 31st, 2022. It is noted that at the time of this review, the OFM had not publicly released updated 2023 SIR data.

#### 10.1 Past Loss

Analysis of historical data provides valuable insight into understanding the specific trends within a community. Assessing the key factors of life safety risk and fire risk in relation to provincial statistics provides a foundation for evaluating where specific programs or services may be necessary.

##### 10.1.1 Total Fire Loss

The analysis of total fire loss in the Town of Milton over the five-year period from 2018 to 2022 as displayed in Table 46 includes three categories representing the primary types of fires and the total amount of dollar loss associated with these fires. This includes 183 structure fires, 19 outdoor fires, and 151 vehicle fires representing \$27,339,555 in total dollar loss. Over this five-year period, the city averaged 71 fires per year and \$5,467,911 in property loss per year.

Table 47 presents a comparison of average structure fires and property loss between the Town of Milton and the province of Ontario for the years 2018 to 2022. Over this period, Milton experienced an average of 36.6 structure fires annually, resulting in an average property loss of \$4,256,065 per year. These fires accounted for 10.37% of all fires in the town and 15.56% of the total property loss. In comparison, Ontario reported an average of 7,026 structure fires annually with an average loss of \$881,092,618, representing 12.86% of all fires in the province and 17.70% of the total property loss.

Table 46: Total Fire Loss – Town of Milton

| Year           | Structure Fires | Loss (\$)    | Outdoor Fires | Outdoor Loss | Vehicle Fires | Vehicle Loss | Total Fires | Total Loss   |
|----------------|-----------------|--------------|---------------|--------------|---------------|--------------|-------------|--------------|
| 2018           | 42              | \$5,246,405  | 3             | \$6,010      | 31            | \$967,099    | 76          | \$6,219,514  |
| 2019           | 30              | \$3,473,500  | 2             | \$40,050     | 35            | \$1,012,600  | 67          | \$4,526,150  |
| 2020           | 33              | \$3,702,120  | 4             | \$106,100    | 29            | \$2,053,000  | 66          | \$5,861,220  |
| 2021           | 33              | \$5,856,500  | 7             | \$4,850      | 24            | \$939,996    | 64          | \$6,801,346  |
| 2022           | 45              | \$2,986,800  | 3             | \$2,525      | 32            | \$942,000    | 80          | \$3,931,325  |
| Total          | 183             | \$21,265,325 | 19            | \$159,535    | 151           | \$5,914,695  | 353         | \$27,339,555 |
| % of All Fires | 51.84           | 77.78        | 5.38          | 0.58         | 42.78         | 21.63        | 100.00      | 100.00       |
| Average        | 36.6            | \$4,253,065  | 3.8           | \$31,907     | 30.2          | \$1,182,939  | 70.6        | \$5,467,911  |

Table Source: (SIR Municipal Fires Overview 2018-2022) - Milton

Table 47: Structure Fires and Property Loss – Town of Milton and Ontario

| Year                   | Milton Structure Fires | Milton Structure Loss | % of All Fires | % of All Loss | Ontario Structure Fires | Ontario Structure Loss | % of All Fires | % of All Loss |
|------------------------|------------------------|-----------------------|----------------|---------------|-------------------------|------------------------|----------------|---------------|
| 2018                   | 42                     | \$5,246,405           | 11.90          | 19.19         | 7,012                   | \$734,340,655          | 12.83          | 14.75         |
| 2019                   | 30                     | \$3,473,500           | 8.50           | 12.71         | 6,715                   | \$860,432,756          | 12.29          | 17.28         |
| 2020                   | 33                     | \$3,702,120           | 9.35           | 13.54         | 6,842                   | \$790,698,587          | 12.52          | 15.88         |
| 2021                   | 33                     | \$5,856,500           | 9.35           | 21.42         | 7,081                   | \$858,108,388          | 12.96          | 17.23         |
| 2022                   | 45                     | \$2,986,800           | 12.75          | 10.92         | 7,482                   | \$1,161,882,704        | 13.69          | 23.34         |
| Total                  | 183                    | \$21,265,325          | 51.84          | 77.78         | 35,132                  | \$4,405,463,090        | 64.29          | 88.48         |
| Total, fires with Loss | 353                    | \$27,339,555          | 100.00%        | 100.00%       | 54,645                  | \$4,978,933,145        | 100.00         | 100.00        |
| Average                | 36.6                   | \$4,253,065           | 10.37          | 15.56         | 7,026                   | \$881,092,618          | 12.86          | 17.70         |

Table Source: (SIR Municipal Fires Overview 2018-2022) - Milton

### **10.1.2 Fires by Occupancy Type**

This section examines structure fires occurring from January 1st, 2018, to December 31st, 2022, categorized by occupancy type, utilizing data from the OFM's Standard Incident Reporting. Over this period, the Town of Milton experienced a total of 183 structure fires with 67.21 (123) of these fires occurring in Group C-Residential Occupancies, contributing to 83.51% of the total fire loss. Compared to the province, Milton exhibited a 6.65% lower incidence of fires in Group C-Residential Occupancies but a 16.07% higher share of structure fire loss.

The second most substantial source of property loss was Group F – Industrial occupancies, representing 12.57% of structure fires and 3.67% of total structure fire loss during this period. Milton had a 5.30% higher incidence of industrial fires than the province (Table 48). Further, the structure fire loss for Group F- industrial is 3.67% of the total structure fire loss, which is 6.69% lower than the province for Group F - industrial types.

Table 48: Fires by Major Occupancy Type – 2018-2022

| Group | Occupancy Classification     | # of Structure Fires | Milton % of Structure Fires | Milton Structure Fire Loss | Milton % of Structure Fire Loss | Ontario % of Structure Fires | Ontario % Structure Fire Loss |
|-------|------------------------------|----------------------|-----------------------------|----------------------------|---------------------------------|------------------------------|-------------------------------|
| A     | Assembly                     | 5                    | 2.73                        | \$305,400                  | 1.44                            | 3.33                         | 3.76                          |
| B     | Care & Detention             | 3                    | 1.64                        | \$130,000                  | 0.61                            | 1.45                         | 0.75                          |
| C     | Residential                  | 123                  | 67.21                       | \$17,758,025               | 83.51                           | 73.86                        | 67.44                         |
| D     | Business & Personal Services | 5                    | 2.73                        | \$132,000                  | 0.62                            | 2.63                         | 2.63                          |
| E     | Mercantile                   | 4                    | 2.19                        | \$152,200                  | 0.72                            | 3.28                         | 4.44                          |
| F     | Industrial                   | 23                   | 12.57                       | \$779,900                  | 3.67                            | 7.26                         | 11.99                         |
| Other | Not Classified in OBC        | 11                   | 6.01                        | \$97,300                   | 0.46                            | 5.52                         | 1.18                          |
| Farm  | Classified in the OBC        | 9                    | 4.92                        | \$1,910,500                | 8.98                            | 2.67                         | 7.81                          |
| Total |                              | 183                  | 100.00                      | \$21,265,325               | 100.00                          | 100.00                       | 100.00                        |

Table Source: (SIR - Municipal Fires Overview 2018-2022) - Milton

### 10.1.3 Civilian Fatalities and Injuries

As shown in Table 49, according to data from the OFM Standard Incident Reporting, spanning from January 1st, 2018, to December 31st, 2022, there were 7 reported injuries and 1 fatality within the Town of Milton. Six injuries (85.71%) were associated with Class C – Residential Occupancy fires, which is lower than the rate of injuries associated with this occupancy type for the province (89.68%). In the Town of Milton 14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province.

Table 49: Civilian Fire Fatalities and Injuries by OBC Major Occupancy Classification – Town of Milton and Ontario

| Group | Occupancy Classification     | Milton Injuries | Milton Injuries (%) | Milton Fatalities | Milton Fatalities (%) | Ontario Injuries | Ontario Injuries (%) | Ontario Fatalities | Ontario Fatalities (%) |
|-------|------------------------------|-----------------|---------------------|-------------------|-----------------------|------------------|----------------------|--------------------|------------------------|
| A     | Assembly                     | 0               | 0.00                | 0                 | 0                     | 23               | 0.90                 | 3                  | 0.64                   |
| B     | Care & Detention             | 0               | 0.00                | 0                 | 0                     | 51               | 1.99                 | 6                  | 1.27                   |
| C     | Residential                  | 6               | 85.71               | 1                 | 100                   | 2304             | 89.68                | 444                | 94.07                  |
| D     | Business & Personal Services | 0               | 0.00                | 0                 | 0                     | 35               | 1.36                 | 0                  | 0.00                   |
| E     | Mercantile                   | 0               | 0.00                | 0                 | 0                     | 34               | 1.32                 | 1                  | 0.21                   |
| F     | Industrial                   | 1               | 14.29               | 0                 | 0                     | 74               | 2.88                 | 12                 | 2.54                   |
| Other | Not Classified in OBC        | 0               | 0.00                | 0                 | 0                     | 34               | 1.32                 | 6                  | 1.27                   |
| Farm  | Classified in the NBC        | 0               | 0.00                | 0                 | 0                     | 14               | 0.54                 | 0                  | 0.00                   |
| Total |                              | 7               | 100.00              | 1                 | 0.00                  | 2,569            | 100.00               | 472                | 100.00                 |

Table Source: (SIR - Municipal Fires Overview 2018-2022) - Milton

#### 10.1.4 Reported Fire Cause

The NFPA defines fire cause as “the circumstances, conditions, or agencies that bring together a fuel, ignition source, and oxidizer (such as air or oxygen) resulting in a fire or a combustion explosion.” Assessing the possible cause of the fires reported is an important factor in identifying potential trends or areas that may be considered for introducing additional public education or fire prevention initiatives. Within OFM fire loss reporting, there are four categories of cause used to classify the cause of a fire. These include intentional, unintentional, other, and undetermined. Table 50, below on page 108 presents the reported fire causes for the town compared to the province over the five-year period from January 1st, 2018, to December 31st, 2022.

The "intentional" category includes fires started for a specific reason, typically classified as arson, acts of vandalism, or for personal gain through insurance claims. The number of intentional fires is in line with or lower than that of the province

The "unintentional" category represents common causes of fires, including human behavioral causes (e.g., misuse of ignition sources) and equipment failures (e.g., mechanical failure). Unintentional fire causes represented 62.84% of all reported fires in the town during this period, compared to 66.01% for the province. The leading causes of unintentional fires in the town were the misuse of ignition sources at 28.42% and mechanical/electrical failures at 13.66%, compared to 28.14% and 15.06%, respectively, in the province. Design/construction/maintenance deficiencies in Milton are 4.03% higher than that of the province.

Table 50: Reported Fire Cause – Town of Milton and Ontario – 2018-2022

| Nature        | Fire Cause                                     | Milton #<br>of Fires | Milton %<br>of Fires | Ontario #<br>of Fires | Ontario %<br>of Fires |
|---------------|------------------------------------------------|----------------------|----------------------|-----------------------|-----------------------|
| Intentional   | Arson                                          | 9                    | 4.92                 | 2,219                 | 6.32                  |
|               | Vandalism                                      | 3                    | 1.64                 | 536                   | 1.53                  |
|               | Other                                          | 0                    | 0.00                 | 11                    | 0.03                  |
| Unintentional | Design/Construction/<br>Maintenance Deficiency | 19                   | 10.38                | 2,232                 | 6.35                  |
|               | Mechanical/Electrical<br>Failure               | 25                   | 13.66                | 5,292                 | 15.06                 |
|               | Misuse of Ignition Source                      | 52                   | 28.42                | 9,885                 | 28.14                 |
|               | Other Unintentional                            | 9                    | 4.92                 | 2,554                 | 7.27                  |
|               | Vehicle Collision                              | 0                    | 0.00                 | 29                    | 0.08                  |
|               | Children Playing                               | 0                    | 0.00                 | 138                   | 0.39                  |
|               | Undetermined                                   | 10                   | 5.46                 | 3,062                 | 8.72                  |
| Other         | Other                                          | 10                   | 5.46                 | 1,952                 | 5.56                  |
| Undetermined  | Undetermined                                   | 46                   | 25.14                | 7,100                 | 20.21                 |
| Unknown       | Unknown, not reported                          | 0                    | 0.00                 | 122                   | 0.35                  |
| Total         |                                                | 183                  | 100.00               | 35,132                | 100.00                |

Table Source: (SIR - Municipal Fires Overview 2018-2022) - Milton

### 10.1.5 Ignition Source

According to the 2019 NFPA Glossary of Terms, ignition source is defined as “any item or substance capable of an energy release of type and magnitude sufficient to ignite any flammable mixture of gases or vapors that could occur at the site or onboard the vehicle.” Table 51 provides fire loss by source of ignition for the town and the province. In 23.50% of fires, the ignition source was reported as undetermined. Determining source can assist fire services in the development of public education program to reduce or prevent future events. It could also lead to trends that may indicate greater targeted enforcement needs or identify concerns to the Ontario Fire Marshal for review by their Technical Services section.

The balance of the source of ignition across a number of classifications (Electrical equipment, cooking equipment, heating equipment, open flame, other electrical/mechanical) mostly fall close to or below provincial averages with the exception of miscellaneous which is 4.88% higher than the province.

Table 51: Source of Ignition – Town of Milton and Ontario – 2018-2022

| Reported Ignition Source           | Milton # of Fires | Milton % of Fires | Ontario # of Fires | Ontario % of Fires |
|------------------------------------|-------------------|-------------------|--------------------|--------------------|
| Appliances                         | 15                | 8.20              | 1,528              | 4.35               |
| Cooking Equipment                  | 25                | 13.66             | 5,450              | 15.51              |
| Electrical Distribution Equipment  | 13                | 7.10              | 2,977              | 8.47               |
| Heating Equipment                  | 11                | 6.01              | 2,582              | 7.35               |
| Lighting Equipment                 | 5                 | 2.73              | 964                | 2.74               |
| Open Flame tools/ Smokers Articles | 23                | 12.57             | 4,974              | 14.16              |
| Other Electrical/Mechanical        | 10                | 5.46              | 1,791              | 5.10               |
| Processing Equipment               | 4                 | 2.19              | 421                | 1.20               |
| Miscellaneous                      | 27                | 14.75             | 3,469              | 9.87               |
| Exposure                           | 7                 | 3.83              | 1,736              | 4.94               |
| Undetermined                       | 43                | 23.50             | 9,101              | 25.91              |
| Unknown/Not Reported               | 0                 | 0.00              | 139                | 0.40               |
| <b>Total</b>                       | <b>183</b>        | <b>100.00</b>     | <b>35,132</b>      | <b>100.00</b>      |

Table Source: (SIR - Municipal Fires Overview 2018-2022) - Milton

### 10.1.6 Smoke Alarm Status

In the Province of Ontario, smoke alarms serve as crucial safety measures, mandated on every level of residential dwellings to act as the first line of defense against fires. Smoke alarm programs and compliance initiatives are integral components of public education and fire prevention efforts led by municipal fire services. Data regarding smoke alarm status during fire incidents is collected and reported by municipalities to the province, with information publicly available for analysis. Table 52 shows that over a five-year period from January 1st, 2018, to December 31st, 2022, the Town of Milton reported that in 10.83% of fires responded to, there was no smoke alarm present. This is lower than the provincial average of 17.35%. Conversely, incidents where a smoke alarm was present but failed to operate accounted for 13.33%, slightly higher than the provincial rate of 12.40%. In 45.83% of occurrences, smoke alarms were present and successfully operated, which is higher than the provincial rate of 44.68%.

Table 52: Smoke Alarm Presence and Operation on the Floor of Fire Origin – Town of Milton and Ontario– 2018-2022

| Smoke Alarm Status<br>(on floor of origin)     | Milton<br>Total | Milton % | Ontario<br>Total | Ontario % |
|------------------------------------------------|-----------------|----------|------------------|-----------|
| No Smoke Alarm Present                         | 13              | 10.83    | 4,307            | 17.35     |
| Smoke Alarm Present & Operated                 | 55              | 45.83    | 11,091           | 44.68     |
| Smoke Alarm Present & did not Operate          | 16              | 13.33    | 3,079            | 12.40     |
| Smoke Alarm Present, Operation<br>undetermined | 20              | 16.67    | 2,007            | 8.09      |
| Smoke Alarm Presence Undetermined              | 16              | 13.33    | 4,269            | 17.20     |
| Unknown, not reported                          | 0               | 0.00     | 69               | 0.28      |
| Total                                          | 120             | 100.00   | 24,822           | 100.00    |

Table Source: (SIR Municipal Smoke Alarm Presence and Operation in Residential Fires 2018-2022) - Milton

Among the incidents analyzed over the five-year period, the status of smoke alarms could not be conclusively determined in 30.00% of the incidents responded to by MFRS which is 4.71% higher than that of the province. The reasons for the undetermined status could vary, including factors such as the extent of fire damage obscuring the evidence of smoke alarm presence or functionality, lack of proper documentation, or limitations in investigative procedures. Efforts to enhance data collection and investigation methods could help reduce the number of undetermined cases, providing valuable insights for fire prevention and safety initiatives.

## 10.2 Event History

Event history seeks to apply MFRS historic emergency call data to develop an understanding of community risks. The OFM provided the data used in this analysis for all historical calls for the five-year period from January 1st, 2018, to December 31st, 2022. This section provides a statistical assessment of historic emergency call volumes for the town. The analysis included within this section also provides a detailed breakdown of calls by OFM response type. Data used in the analysis of call volume by type was sourced from the OFM's Standard Incident Reporting because call volume by type is compared to the province. The volume and frequency of historic calls informs the understanding of response probability. The types of calls inform the potential consequences of MFRS responses and calls for service. The combined consideration of these elements provides an understanding of community risk, based on past calls for service.

## 10.2.1 Emergency Call Volume

This section illustrates the historical emergency call volume by year, month, day of week, and time of day for all types of incidents responded to by MFRS for the time from January 1st, 2018, to December 31st, 2022.

### 10.2.1.1 Annual Call Volume – All Incident Types

The analysis of annual emergency call volume can be beneficial in understanding evolving trends or changes in emergency response demand. A summary of the total number of emergency calls for the period from January 1st, 2018, to December 31st, 2022, is shown in Figure 8. This analysis identifies an increase in the total emergency call volume within the town over this period from 1,799 calls in 2018 to 2,301 calls in 2022. This represents a total increase of 27.91% over this five-year period with an average of 1,951 calls per year. There was an 18.73% increase in the call volume from 2021 to 2022. This is a trend that is being observed across the province as it came out of Covid-19, however, this trend should be monitored.

Figure 8: Annual Call Volume – All Incidents January 1, 2018, to December 31, 2022

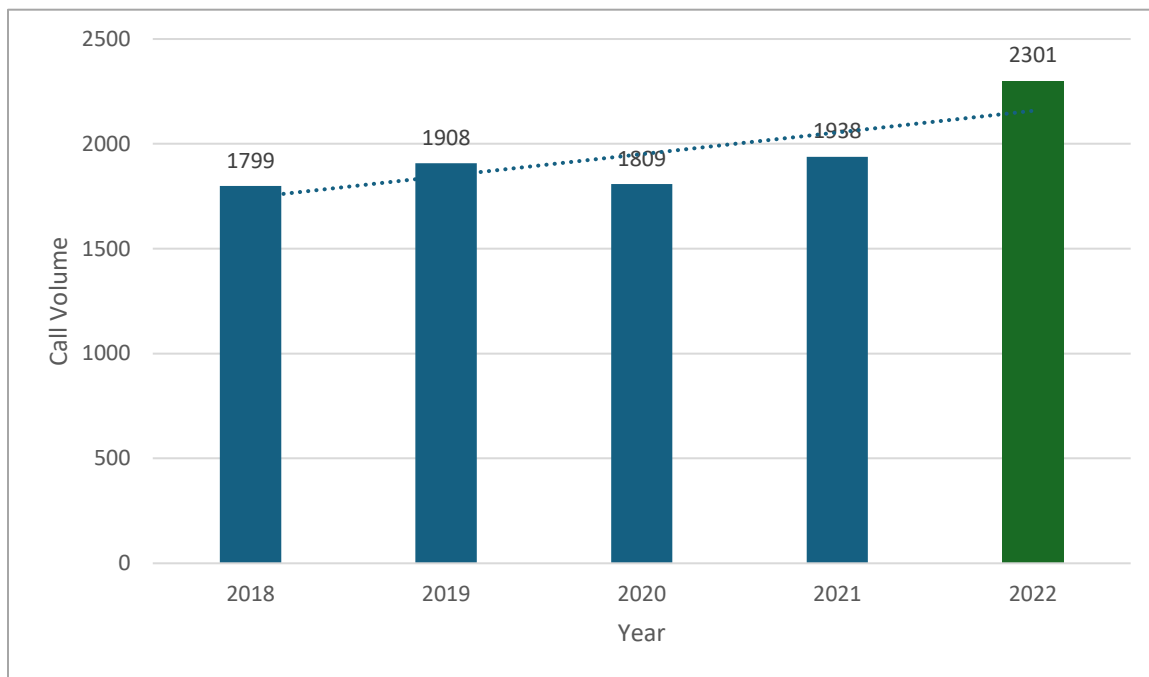


Figure Source: (SIR Municipal Emergency Calls by Year, Month, Day, Hour & Response Categories 2018-2022) - Milton

### 10.2.1.2 Monthly Emergency Call Volume – All Incident Types

Figure 9 illustrates that call volumes remain relatively consistent throughout the year, with the highest occurrences typically observed from May to August. This increase aligns with the expected influx of tourists and heightened travel activity through the town during these months.

Figure 9: Total Call Volume by Month – All Incidents January 1, 2018, to December 31, 2022

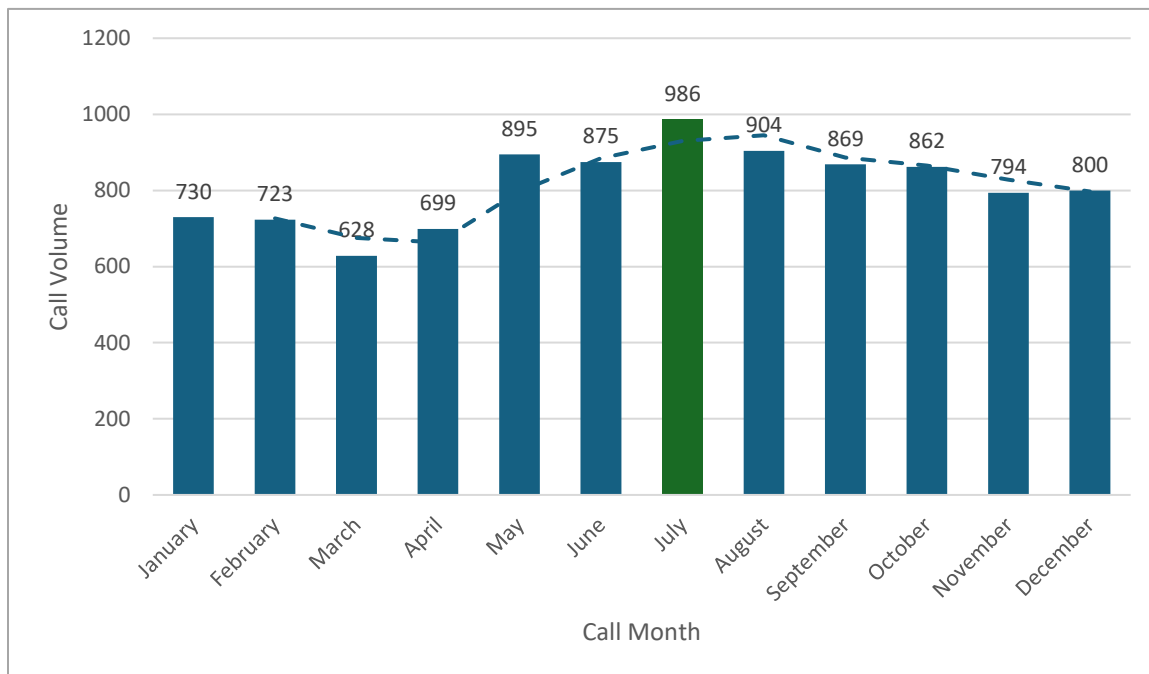


Figure Source: (SIR Municipal Emergency Calls by Year, Month, Day, Hour & Response Categories 2018-2022) - Milton

### 10.2.1.3 Daily Emergency Call Volume – All Incident Types

Figure 10 presents an analysis of the call volume by day of the week. The data shows that incidents generally occurred with similar frequency, with a noticeable increase from Friday to Saturday. This trend is expected, as more of the population engages in recreational activities and there is typically an increase in traffic volume throughout the town during these days.

Figure 10: Total Call Volume by Day – All Incidents January 1, 2018, to December 31, 2022

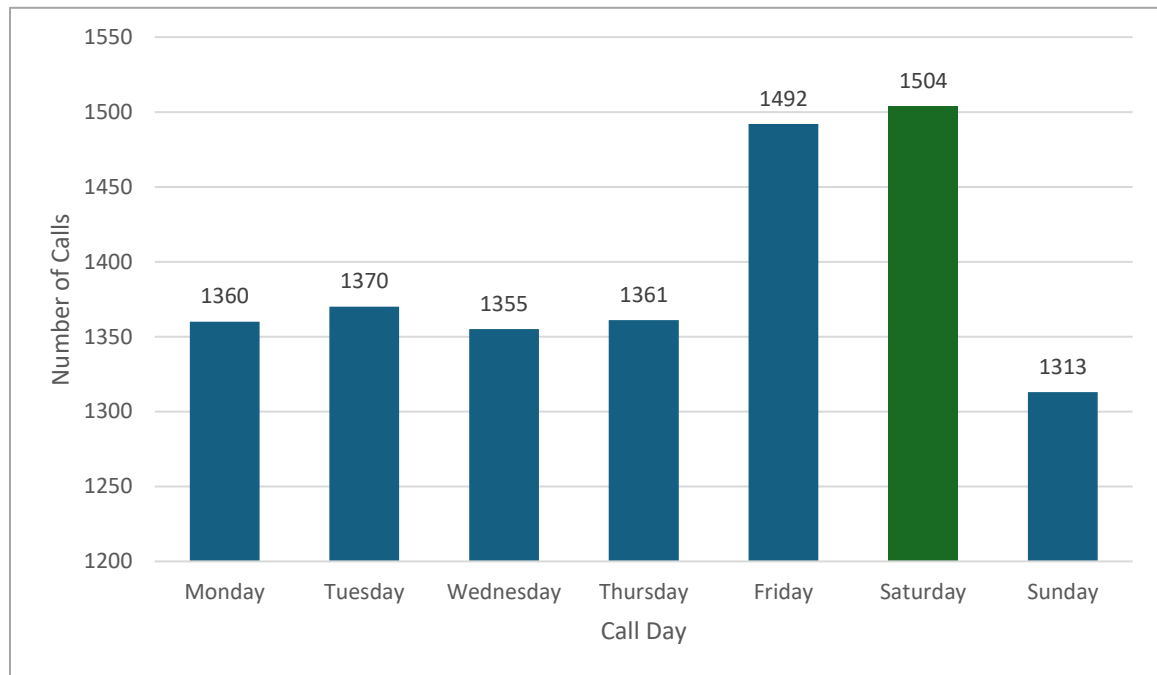


Figure Source: (SIR Municipal Emergency Calls by Year, Month, Day, Hour & Response Categories 2018-2022) - Milton

#### 10.2.1.4 Hourly Emergency Call Volume – All Incident Types

For the period from January 1, 2018, to December 31, 2022, higher call volumes typically seen at rush hour both in the morning and in the evening with the highest between 3PM and 9PM (see Figure 11).

Figure 11: Total Call Volume by Time of Day – All Incidents January 1, 2018, to December 31, 2022

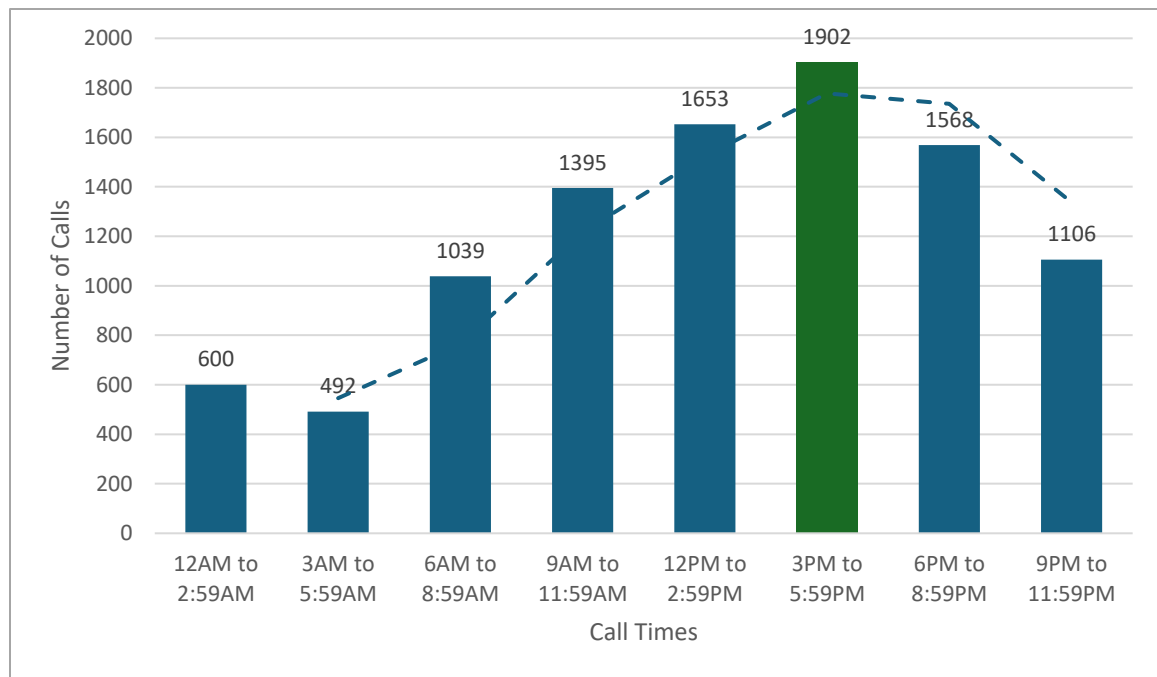


Figure Source: (SIR Municipal Emergency Calls by Year, Month, Day, Hour & Response Categories 2018-2022) - Milton

### 10.2.1.5 Call Type – All Incident Types

This section analyzes the emergency call volume for the period from January 1, 2018, to December 31, 2022. key trends in the types of incidents that the department responded to over this five-year period.

Table 53 illustrates that during this period 28.67% of the total emergency calls that MFRS responded to were false alarms. Rescue calls accounted for 19.99% of all calls, with 92.05% attributed to motor vehicle collisions. The number of fires reported over this 5-year period was 602 which is 6.17% of the total calls. This is higher than fires reported provincially at 2.10%. Table 54 provides a breakdown of all calls.

Table 53: Total Number of Incidents – Summary - January 1, 2018, to December 31, 2022

| Incident Subcategory                     | 2018         | 2019         | 2020         | 2021         | 2022         | Total        | Total %        |
|------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Property fires/explosions                | 126          | 108          | 113          | 122          | 133          | 602          | 6.17%          |
| Burning (controlled)                     | 53           | 56           | 85           | 57           | 46           | 297          | 3.04%          |
| Overpressure rupture/explosion (no fire) | 0            | 1            | 0            | 1            | 0            | 2            | 0.02%          |
| Pre-fire conditions/no fire              | 57           | 82           | 81           | 88           | 182          | 490          | 5.02%          |
| False fire calls                         | 468          | 558          | 554          | 630          | 587          | 2,797        | 28.67%         |
| CO false calls                           | 102          | 122          | 116          | 137          | 88           | 565          | 5.79%          |
| Public Hazard                            | 106          | 122          | 132          | 120          | 163          | 643          | 6.59%          |
| Rescue                                   | 391          | 384          | 309          | 356          | 510          | 1,950        | 19.99%         |
| Medical/Resuscitator                     | 80           | 81           | 80           | 121          | 120          | 482          | 4.94%          |
| Other response                           | 416          | 394          | 339          | 306          | 472          | 1,927        | 19.75%         |
| <b>Total</b>                             | <b>1,799</b> | <b>1,908</b> | <b>1,809</b> | <b>1,938</b> | <b>2,301</b> | <b>9,755</b> | <b>100.00%</b> |

Table Source: (SIR Municipal Emergency Calls by Response Type Class 2018-2022) - Milton

Table 54: Total Number of Incidents – Breakdown - January 1, 2018, to December 31, 2022

| Call Type                                        | 2018         | 2019         | 2020         | 2021         | 2022         | Total        | Total %       |
|--------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| A. Structure Fire                                | 42           | 30           | 33           | 33           | 45           | 183          | 1.88          |
| B. Other Fire                                    | 3            | 2            | 4            | 7            | 3            | 19           | 0.19          |
| C. Vehicle Fire                                  | 31           | 35           | 29           | 24           | 32           | 151          | 1.55          |
| D. No Loss Fire                                  | 5            | 6            | 7            | 8            | 9            | 35           | 0.36          |
| E. No Loss Fire (Excluded)                       | 45           | 35           | 40           | 50           | 44           | 214          | 2.19          |
| F. Non-Fire Call                                 | 1,673        | 1,800        | 1,696        | 1,816        | 2,168        | 9,153        | 93.83         |
| <b>Total</b>                                     | <b>1,799</b> | <b>1,908</b> | <b>1,809</b> | <b>1,938</b> | <b>2,301</b> | <b>9,755</b> | <b>100.00</b> |
| <b>F. Non-Fire Call Breakdown</b>                |              |              |              |              |              |              |               |
| Burning Controlled                               | 53           | 56           | 85           | 57           | 46           | 297          | 3.24          |
| Authorized controlled burning complaint          | 14           | 20           | 31           | 20           | 17           | 102          | 34.34         |
| Open Air Burning/unauthorized controlled burning | 39           | 36           | 54           | 37           | 29           | 195          | 65.66         |
| CO False Fire Calls                              | 102          | 122          | 116          | 137          | 88           | 565          | 6.17          |
| CO false alarm - equipment malfunction           | 67           | 84           | 88           | 97           | 56           | 392          | 69.38         |
| CO false alarm - perceived emergency             | 35           | 38           | 28           | 40           | 32           | 173          | 30.62         |
| False Fire Calls                                 | 374          | 558          | 554          | 630          | 587          | 2,703        | 29.53         |
| Alarm System Equipment Accidental Activation     | 10           | 156          | 161          | 163          | 130          | 620          | 22.94         |
| Alarm System Equipment Malfunction               | 171          | 175          | 197          | 201          | 204          | 948          | 35.07         |
| Human - Accidental                               | 64           | 70           | 41           | 82           | 90           | 347          | 12.84         |
| Human - Malicious                                | 8            | 8            | 10           | 14           | 42           | 82           | 3.03          |
| Human - Perceived Emergency                      | 82           | 102          | 105          | 100          | 79           | 468          | 17.31         |
| Other False Fire Call                            | 39           | 47           | 40           | 70           | 42           | 238          | 8.81          |
| Medical/Resuscitator Call                        | 80           | 81           | 80           | 121          | 120          | 482          | 5.27          |
| Accident or illness                              | 6            | 6            | 3            | 11           | 6            | 32           | 6.64          |

| Call Type                                                   | 2018 | 2019 | 2020 | 2021 | 2022 | Total | Total % |
|-------------------------------------------------------------|------|------|------|------|------|-------|---------|
| Alcohol or Drug Related                                     | 2    | 2    | 3    | 2    | 1    | 10    | 2.07    |
| Asphyxia, respiratory Condition                             | 0    | 0    | 3    | 0    | 0    | 3     | 0.62    |
| Burns                                                       | 1    | 0    | 1    | 0    | 2    | 4     | 0.83    |
| Medical/Resuscitator Call - Continued                       |      |      |      |      |      |       |         |
| Chest Pains or Suspected Heart Attack                       | 1    | 0    | 1    | 0    | 2    | 4     | 0.83    |
| CPR administered                                            | 16   | 13   | 21   | 25   | 17   | 92    | 19.09   |
| Defibrillator Used                                          | 2    | 1    | 1    | 1    | 3    | 8     | 1.66    |
| Electric Shock                                              | 0    | 0    | 0    | 1    | 0    | 1     | 0.21    |
| Medical aid not required on arrival                         | 3    | 3    | 3    | 7    | 10   | 26    | 5.39    |
| Medical Resuscitator call false alarm                       | 0    | 1    | 2    | 3    | 1    | 7     | 1.45    |
| Medical Resuscitator call no action required                | 12   | 12   | 15   | 20   | 26   | 85    | 17.63   |
| Other Medical Resuscitator Call                             | 9    | 6    | 7    | 11   | 12   | 45    | 9.34    |
| Oxygen Administered                                         | 3    | 4    | 1    | 1    | 3    | 12    | 2.49    |
| Seizure                                                     | 1    | 3    | 1    | 1    | 0    | 6     | 1.24    |
| Traumatic Shock                                             | 0    | 0    | 0    | 0    | 1    | 1     | 0.21    |
| Vital Signs Absent, DOA                                     | 24   | 30   | 18   | 38   | 36   | 146   | 30.29   |
| Other Response                                              | 416  | 394  | 339  | 306  | 472  | 1,927 | 21.05   |
| Assistance not required by other agency                     | 116  | 123  | 73   | 75   | 83   | 470   | 24.39   |
| Assistance to other agencies                                | 21   | 19   | 21   | 33   | 16   | 110   | 5.71    |
| Assistance to Police                                        | 14   | 11   | 14   | 13   | 16   | 68    | 3.53    |
| Assisting other Fire Department (Automatic Aid)             | 1    | 1    | 3    | 2    | 1    | 8     | 0.42    |
| Assisting other Fire Department (Fire Protection Agreement) | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Assisting other Fire Department (Mutual Aid)                | 0    | 2    | 0    | 4    | 2    | 8     | 0.42    |
| Assisting other Fire Department (Other)                     | 2    | 0    | 0    | 1    | 0    | 3     | 0.16    |

| Call Type                                                | 2018 | 2019 | 2020 | 2021 | 2022 | Total | Total % |
|----------------------------------------------------------|------|------|------|------|------|-------|---------|
| Cancelled on Route                                       | 57   | 48   | 42   | 30   | 42   | 219   | 11.36   |
| Illegal Grow Operation (no fire)                         | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Incident Not Found                                       | 28   | 34   | 31   | 22   | 33   | 148   | 7.68    |
| Other Public Service                                     | 138  | 105  | 91   | 62   | 216  | 612   | 31.76   |
| Other Response                                           | 39   | 51   | 64   | 64   | 63   | 281   | 14.58   |
| Overpressure Rupture/explosion (no fire)                 | 0    | 1    | 0    | 1    | 0    | 2     | 0.02    |
| Overpressure Rupture- Gas pipe (no fire)                 | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Overpressure Rupture (no fire- steam boilers, hot water) | 0    | 1    | 0    | 1    | 0    | 2     | 100.00  |
| Pre-Fire Conditions (no fire)                            | 57   | 82   | 81   | 88   | 182  | 490   | 5.35    |
| Fireworks (no fire)                                      | 1    | 0    | 8    | 0    | 2    | 11    | 2.24    |
| Lightning (no fire)                                      | 0    | 0    | 1    | 0    | 1    | 2     | 0.41    |
| Other (cooking, toasting, smoke, steam)                  | 9    | 14   | 18   | 25   | 92   | 158   | 32.24   |
| Other pre fire conditions (no fire)                      | 16   | 18   | 16   | 27   | 35   | 112   | 22.86   |
| Overheat (no fire- mechanical devices)                   | 21   | 34   | 23   | 20   | 30   | 128   | 26.12   |
| Pot on Stove                                             | 10   | 16   | 15   | 16   | 22   | 79    | 16.12   |
| Public Hazard                                            | 106  | 122  | 132  | 120  | 163  | 643   | 7.03    |
| Bomb, Explosive removal Standby                          | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| CO incident, CO present                                  | 24   | 52   | 47   | 33   | 61   | 217   | 33.75   |
| Gas Leak - Miscellaneous                                 | 1    | 0    | 1    | 0    | 0    | 2     | 0.31    |
| Gas Leak - Natural Gas                                   | 24   | 15   | 15   | 17   | 19   | 90    | 14.00   |
| Gas Leak - Propane                                       | 2    | 3    | 2    | 3    | 1    | 11    | 1.71    |
| Gas Leak - Refrigeration                                 | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Other Public Hazard                                      | 9    | 11   | 9    | 8    | 14   | 51    | 7.93    |
| Power Lines Down, Arcing                                 | 20   | 11   | 24   | 24   | 23   | 102   | 15.86   |
| Public Hazard call false alarm                           | 3    | 14   | 10   | 6    | 6    | 39    | 6.07    |
| Public Hazard no action required                         | 3    | 3    | 8    | 3    | 4    | 21    | 3.27    |
| Ruptured Water, Steam Pipe                               | 9    | 4    | 8    | 17   | 25   | 63    | 9.80    |
| Spill- Gasoline or Fuel                                  | 10   | 7    | 6    | 7    | 7    | 37    | 5.75    |

| Call Type                       | 2018 | 2019 | 2020 | 2021 | 2022 | Total | Total % |
|---------------------------------|------|------|------|------|------|-------|---------|
| Spill - Miscellaneous           | 1    | 1    | 2    | 2    | 3    | 9     | 1.40    |
| Spill - Toxic Chemical          | 0    | 1    | 0    | 0    | 0    | 1     | 0.16    |
| Suspicious Substance            | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Rescue                          | 391  | 384  | 309  | 356  | 510  | 1,950 | 21.30   |
| Animal Rescue                   | 1    | 1    | 2    | 3    | 3    | 10    | 0.51    |
| Building Collapse               | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| Commercial Industrial Accident  | 0    | 1    | 0    | 0    | 0    | 1     | 0.05    |
| Confine Space Rescue (non-fire) | 0    | 0    | 0    | 0    | 0    | 0     | 0.00    |
| High Angle Rescue               | 0    | 2    | 0    | 1    | 3    | 6     | 0.31    |
| Home/Residential Accident       | 1    | 0    | 1    | 3    | 2    | 7     | 0.36    |
| Low Angle Rescue                | 1    | 0    | 3    | 2    | 4    | 10    | 0.51    |
| Other Rescue                    | 13   | 5    | 0    | 1    | 6    | 25    | 1.28    |
| Persons Trapped in Elevator     | 15   | 10   | 11   | 13   | 12   | 61    | 3.13    |
| Rescue False Alarm              | 0    | 0    | 0    | 1    | 0    | 1     | 0.05    |
| Rescue No Action Required       | 3    | 2    | 5    | 11   | 10   | 31    | 1.59    |
| Vehicle Collision               | 344  | 352  | 269  | 312  | 452  | 1,729 | 88.67   |
| Vehicle Extrication             | 13   | 11   | 16   | 8    | 18   | 66    | 3.38    |
| Water Ice Rescue                | 0    | 0    | 1    | 0    | 0    | 1     | 0.05    |
| Water Rescue                    | 0    | 0    | 1    | 1    | 0    | 2     | 0.10    |

Table Source: (SIR Municipal Emergency Calls by Response Type Class 2018-2022) - Milton

### 10.3 Past Loss & Event History Profile – Identified Risks and Key Findings

Table 55: Past Loss & Event History Profile – Identified Risks and Key Findings

| Identified Risk / Key Finding | Rationale                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Risk               | From January 1, 2018, to December 31, 2022, the Town of Milton experienced a total of 183 structure fires, with 67.21% (123 fires) occurring in Group C - Residential Occupancies, contributing to 83.51% of the total fire loss.                                                                                              |
| Identified Risk               | For the period from January 1, 2018, to December 31, 2022, Group F- Industrial Occupancies accounted for 12.57% of the structure fires and 3.67% of the total structure fire loss, despite representing only 1.65% of the building stock. Milton had a 5.30% higher incidence of industrial fires than the provincial average. |
| Identified Risk               | Compared to the province, Milton experienced a 6.65% lower incidence of fires in Group C-Residential Occupancies but a 16.07% higher share of total structure fire loss.                                                                                                                                                       |
| Identified Risk               | In Milton, 14.29% of injuries were attributed to Group F - Industrial Fires, which is 11.41% higher than the provincial average.                                                                                                                                                                                               |
| Key Finding                   | Over the five-year period from January 1, 2018, to December 31, 2022, 10.38% of fires responded to were caused by design, construction, or maintenance deficiencies, which is 4.03% higher than the provincial average.                                                                                                        |
| Key Finding                   | Over a five-year period from January 1, 2018, to December 31, 2022, 10.83% of fires in Milton occurred in buildings where no smoke alarm was present, which is lower than the provincial average of 17.35%.                                                                                                                    |
| Key Finding                   | In 30.00% of incidents over the five-year period, the status of smoke alarms could not be conclusively determined, which is 4.71% higher than the provincial average.                                                                                                                                                          |
| Key Finding                   | From January 1, 2018, to December 31, 2022, total emergency call volume in Milton increased by 27.90%.                                                                                                                                                                                                                         |
| Key Finding                   | From January 1, 2018, to December 31, 2022, 602 fires were reported, representing 6.17% of total calls. This is higher than the provincial average of 2.10%.                                                                                                                                                                   |
| Key Finding                   | From January 1, 2018, to December 31, 2022, rescue calls accounted for 19.99% of all calls, with 92.05% of those attributed to motor vehicle collisions.                                                                                                                                                                       |

## Section 11

### Identified Risks and Risk Treatments

The purpose of a CRA is to identify risks that are then used to inform decision-making regarding the provision of fire protection services. The analysis throughout this CRA identifies ‘Key Findings’ and ‘Identified Risks’ to be considered. In alignment with **TG-02-2019**, this section takes the identified risk conclusions through a risk assignment process to assist in the prioritization of risks, as well as a risk treatment process. This section of the CRA brings together all the key findings and identified risks. They are taken through a risk treatment process and aligned with the “Five E’s” of Community Risk Reduction and three lines of defence to inform the analysis and recommendations for within a Fire Master Plan or other strategic document as shown in Figure 12.

Figure 12: Risk Conclusions Application Process

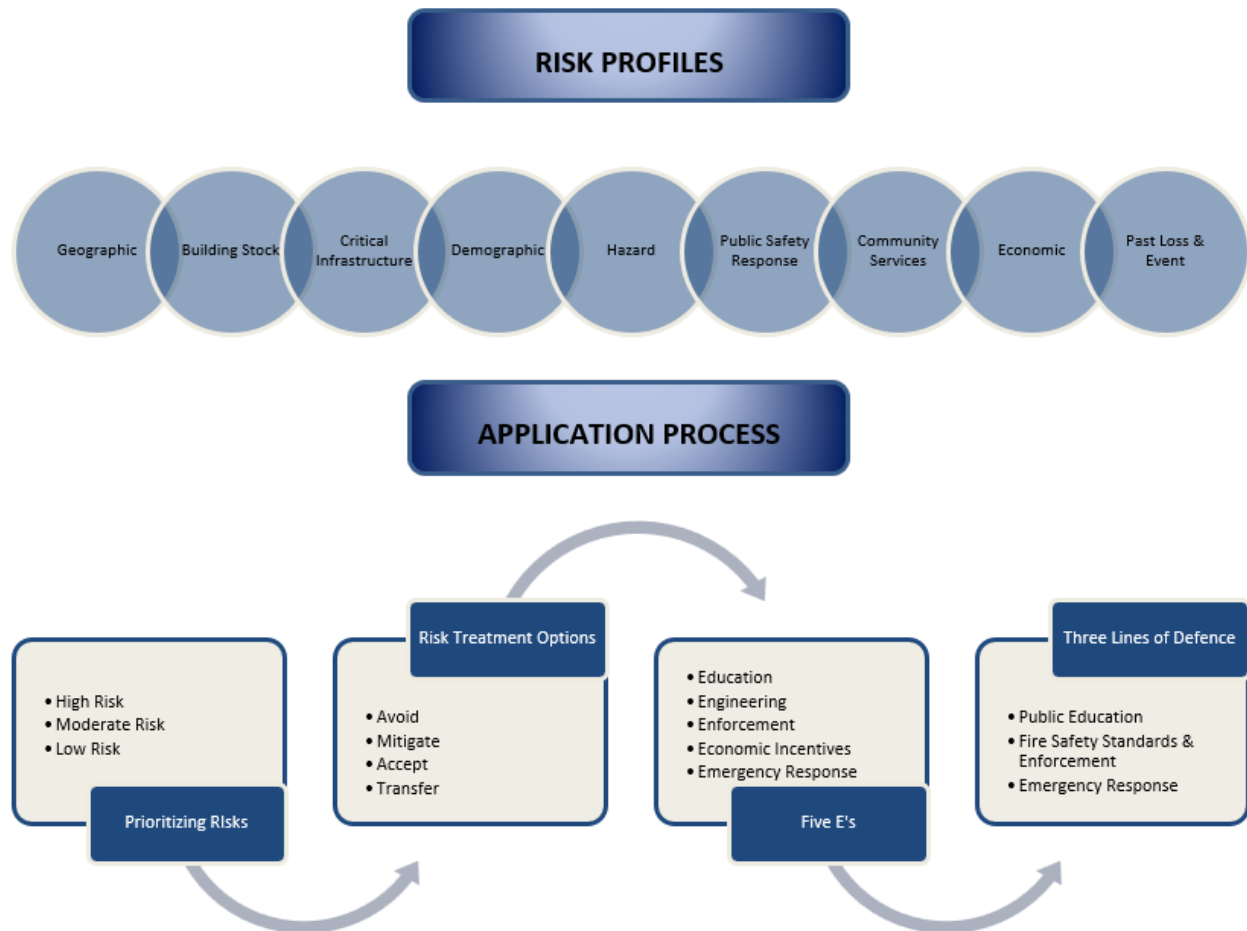


Figure Source: (NFPA 1300, 2020, p. Annex A.6.3.3.2(4); OFM-TG-02-2019, Revised 2022, pp. Section 6, pg. 16)

## 11.1 Prioritizing Risk

Following the probability and consequence levels identified by the OFM as described in the subsections below, the risk assignment process considers the probability and consequence of each identified risk. This will result in each risk having a risk level (e.g., low, moderate, or high) assigned. These risk levels will then be used to assist in the prioritization of risks as part of a Fire Master Plan.

### 11.1.1 Risk assignment Process Overview

The risk assignment methodology used as part of this CRA is informed by the OFM Technical Guideline (TG)-02-2019 Community Risk Assessment Guideline. There are three steps included in the risk assignment exercise used for this CRA:

1. **Determine a probability level:** The probability of a fire or emergency event occurring can be estimated in part based on historical experience of the community and that of the province. The likelihood categories, and the values presented, follow the OFM TG-02-2019 Community Risk Assessment Guideline. Table 56 presents the probability levels and the adjusted descriptions.

Table 56: Probability Level

| Likelihood Category | Numerical Value <sup>24</sup> | Description                                                                                                                                                                 |
|---------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rare                | 1                             | <ul style="list-style-type: none"> <li>May occur in exceptional circumstances</li> <li>No incidents in the past 15 years</li> </ul>                                         |
| Unlikely            | 10                            | <ul style="list-style-type: none"> <li>Could occur at some time, especially if circumstances change</li> <li>5 to 15 years since last incident</li> </ul>                   |
| Possible            | 100                           | <ul style="list-style-type: none"> <li>Might occur under certain circumstances</li> <li>1 incident in the past 5 years</li> </ul>                                           |
| Likely              | 1,000                         | <ul style="list-style-type: none"> <li>Will probably occur at some time under current circumstances</li> <li>Multiple or recurring incidents in the past 5 years</li> </ul> |
| Almost Certain      | 10,000                        | <ul style="list-style-type: none"> <li>Expected to occur unless circumstances change</li> <li>Multiple or recurring incidents in the past year</li> </ul>                   |

Table Source: (OFM-TG-02-2019, Revised 2022, pp. Section 4.1, pg.13)

<sup>24</sup> (City of Mississauga CRA, 2017)

2. **Determine a consequence level:** The consequences of an emergency event relate to the potential losses or negative outcomes associated with the incident. There are four components that should be evaluated in terms of assessing consequence. These include:
- a) **Life Safety:** Injuries or loss of life due to occupant and firefighter exposure to life threatening fire or other situations.
  - b) **Property Loss:** Monetary losses relating to private and public buildings, property content, irreplaceable assets, significant historic/symbolic landmarks, and critical infrastructure due to fire.
  - c) **Economic Impact:** Monetary losses associated with property income, business closures, downturn in tourism, tax assessment value and employment layoffs due to fire.
  - d) **Environmental Impact:** Harm to human and non-human (e.g., wildlife, fish, and vegetation) species of life and general decline in quality of life within the community due to air/water/soil contamination because of fire or fire suppression activities.

Table 57 presents the consequence levels.

Table 57: Consequence Levels

| Likelihood Category | Numerical Value <sup>25</sup> | Description                                                                                                                                                                                                                                                                                                                          |
|---------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insignificant       | 1                             | <ul style="list-style-type: none"> <li>No life safety issue</li> <li>Limited value or no property loss</li> <li>No impact to local economy</li> <li>No effect of general living conditions</li> </ul>                                                                                                                                |
| Minor               | 10                            | <ul style="list-style-type: none"> <li>Potential risk to life safety of occupants</li> <li>Minor property loss</li> <li>Minimal disruption to business activity and/or Minimal impact on general living conditions</li> </ul>                                                                                                        |
| Moderate            | 100                           | <ul style="list-style-type: none"> <li>Threat to life safety of occupants</li> <li>Moderate property loss</li> <li>Poses threat to small local businesses</li> <li>Could pose threat to quality of the environment</li> </ul>                                                                                                        |
| Major               | 1,000                         | <ul style="list-style-type: none"> <li>Potential for large loss of life</li> <li>Would result in significant property damage</li> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment would result in a short term, partial evacuation of local residents and businesses</li> </ul>      |
| Catastrophic        | 10,000                        | <ul style="list-style-type: none"> <li>Significant loss of life</li> <li>Multiple property damage to a significant portion of the town</li> <li>Long term disruption of businesses, local employment, and tourism and/or Environmental damage that would result in long-term evacuation of local residents and businesses</li> </ul> |

Table Source: (OFM-TG-02-2019, Revised 2022, pp. Section 4.2, pg. 14)

<sup>25</sup> (City of Mississauga CRA, 2017)

3. **Establish the risk level:** (i.e., low, moderate, or high) for each risk based on the identified probability and consequence for each event. Once probability and consequence are determined the level of risk is calculated by multiplying the numerical values<sup>26</sup> for probability and consequence. The relationship between probability and consequence as it pertains to risk levels can be illustrated in a risk matrix. In a risk matrix, probability and consequence are defined on separate scales with varying descriptors providing directions on how to assign the probability and consequence of an event. Table 58 shows the risk matrix for this CRA.

Table 58: Probability &amp; Consequence Risk Matrix

| Probability/<br>Consequence | Insignificant<br>1 | Minor<br>10 | Moderate<br>100 | Major<br>1,000 | Catastrophic<br>10,000 |
|-----------------------------|--------------------|-------------|-----------------|----------------|------------------------|
| Almost Certain<br>10,000    | Moderate           | Moderate    | High            | High           | High                   |
| Likely<br>1,000             | Moderate           | Moderate    | Moderate        | High           | High                   |
| Possible<br>100             | Low                | Moderate    | Moderate        | Moderate       | High                   |
| Unlikely<br>10              | Low                | Low         | Moderate        | Moderate       | Moderate               |
| Rare<br>1                   | Low                | Low         | Low             | Moderate       | Moderate               |

Table Source: (OFM-TG-02-2019, Revised 2022, pp. Appendix B, pg. B1)

### 11.1.2 Assigned Risk Levels

The purpose of assigning a risk level is to assist in the prioritization of the range of risks that were identified as part of this CRA. The results of the risk assignment process are presented in Table 59 Where possible, quantitative data was used to inform the risk assignment as described in the rationale in the table.

<sup>26</sup> (City of Mississauga CRA, 2017)

Table 59: Risk Assignment

| No. | Profile    | Identified Risk                                                                                                                                                 | Probability Level | Rationale                                                                                                                                                                                                                                                                                    | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                        | Risk Level |
|-----|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1   | Geographic | The road network predominately Hwy 401 bisecting the town, is a contributor to emergency call volume due to motor vehicle collisions and vehicle fires          | Almost Certain    | <ul style="list-style-type: none"> <li>Over the period of January 2018 – December 2022 MFRS has responded to 1950 rescue calls of which 92.05% are related to vehicle collisions.</li> </ul>                                                                                                 | Moderate          | <ul style="list-style-type: none"> <li>Potential for risk to life safety of occupants of motor vehicles</li> <li>Potential risk for property loss</li> <li>Could pose a threat to small local business</li> <li>Could pose a threat to the quality of the environment</li> <li>Consequence level could be impacted by the magnitude of a hazard event</li> </ul> | High       |
| 2   | Geographic | Since provincial highways and rail lines are designated dangerous goods routes, traffic carrying various hazardous materials passes through the town regularly. | Possible          | <ul style="list-style-type: none"> <li>Guelph Junction Railway operate various lines running through the municipality, which includes farmland and over water surfaces. The containers transported include dangerous goods.</li> <li>Highways 401, 407 and 25 pass through Milton</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant loss of life</li> <li>Multiple property damage to significant portion of the town</li> <li>Long term disruption of farms, businesses, local employment, and tourism and/or Environmental damage that would result in evacuation of local residents, farms, and businesses</li> </ul>                          | Moderate   |

| No. | Profile                                        | Identified Risk                                                                                                                                                                                                                                                                                    | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                      | Risk Level |
|-----|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 3   | Building Stock and Past Loss and Event History | Group C residential occupancies represent 89.65% of the towns existing occupancies. Additionally, 83.51% of structure fires loss, 85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies. (January 1, 2018, to December 31, 2022) | Almost Certain    | <ul style="list-style-type: none"> <li>The majority of the town's existing property stock is comprised of Group C - Residential Occupancies (89.65%)</li> <li>83.51% of structure fires loss over the five-year period from January 1, 2018, to December 31, 2022, occurred within Group C - Residential Occupancies.</li> <li>85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies.</li> <li>In 10.83% of fires there was no smoke alarm present</li> <li>Incidents where a smoke alarm was present but failed to operate accounted for 13.33% which is higher than the provincial average</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Could pose a threat to small local businesses, and/or pose a threat to the quality of the environment</li> <li>Potential for vulnerable individuals including seniors and youth within Group C</li> <li>Potential for exposure risk depending on dwelling type and building age</li> </ul> | High       |

| No. | Profile        | Identified Risk                                                                                                                                                                                                                      | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                                        | Risk Level |
|-----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 4   | Building Stock | 8.51% (3631) of the building stock was constructed before 1975 preceding the adoption of the 1975 OBC and 16.51% (7046 properties) of the town's building stock was constructed before 1981, preceding the adoption of the 1981 OFC. | Almost Certain    | <ul style="list-style-type: none"> <li>Approximately 8.51% of the town's building stock was built preceding the adoption of 1975 OBC</li> <li>Approximately 16.51% of the town's building stock was built preceding the adoption of 1981 OFC</li> <li>the Town of Milton reported that in 10.83% of fires responded to, there was no smoke alarm present</li> <li>incidents where a smoke alarm was present but failed to operate accounted for 13.33%,</li> <li>the status of smoke alarms could not be conclusively determined in 30.00% of the incidents responded to by MFRS which is 4.71% higher than that of the province.</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Could pose a threat to small local businesses, and/or pose a threat to the quality of the environment</li> <li>Occupants could be vulnerable individuals including seniors and youth within Group C – Residential</li> </ul> | High       |

| No. | Profile                                    | Identified Risk                                                                                                                                   | Probability Level | Rationale                                                                                                                                                                                                                                                                                 | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                                                            | Risk Level |
|-----|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 5   | Building Stock & Past Loss & Event History | There are 85 properties within Milton that have been identified as having a potentially high fuel load and therefore an increased high fire risk. | Likely            | <ul style="list-style-type: none"> <li>There are 690 industrial occupancies (1.65% of property stock) - several with known high fuel load concerns</li> <li>There have been 23 industrial fires over the past 5 years (12.57% of all fires) resulting in over \$750k fire loss</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Prolonged disruptions to supply chains</li> <li>Will require increases to Effective Response force numbers for fire suppression operations</li> </ul> | High       |
| 6   | Building Stock                             | According to MPAC Data, there are 44 buildings over 100,000 square feet and two buildings over 1,000,000 square feet                              | Possible          | <ul style="list-style-type: none"> <li>There are 690 industrial occupancies (1.65% of property stock) - several with known high fuel load concerns</li> <li>There have been 23 industrial fires over the past 5 years (12.57% of all fires) resulting in over \$750k fire loss</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Prolonged disruptions to supply chains</li> <li>Will require increases to Effective Response force numbers for fire suppression operations</li> </ul> | Moderate   |

| No. | Profile        | Identified Risk                                                                                                                                                                                            | Probability Level | Rationale                                                                                                                                                                                | Consequence Level | Rationale                                                                                                                                                                                                                                                                        | Risk Level |
|-----|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 7   | Building Stock | There are 78 Properties identified by the Town as Heritage Properties. Historic areas can present a high fire risk due to their age and the materials used to construct the buildings, as well as exposure | Likely            | <ul style="list-style-type: none"> <li>78 Properties identified by the Town as Heritage Properties.</li> <li>These building are built prior to the adoption of the OBC or OFC</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Significant threat to businesses, local economy, and tourism</li> <li>Impact to environment could result in a short term, partial evacuation of local residents and businesses</li> <li>Loss is permanent – cannot be replaced</li> </ul> | Moderate   |
| 8   | Building Stock | The Town of Milton currently has 23 occupancies that have been identified as a potential vulnerable occupancy.                                                                                             | Possible          | <ul style="list-style-type: none"> <li>23 occupancies that have been identified as a potential vulnerable occupancy</li> <li>Occupants may have poorer fire safety habits</li> </ul>     | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage</li> </ul>                                                       | Moderate   |

| No. | Profile        | Identified Risk                                                                                                                                                                                                                                     | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                             | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                  | Risk Level |
|-----|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 9   | Building Stock | The permitting of up to 3 additional dwelling units per residential property allows for increased occupants and increased risk in residential buildings. Additionally, MFRS doesn't have access to identifying these building prior to an incident. | Likely            | <ul style="list-style-type: none"> <li>By-laws allow for up to 3 additional dwelling units within the same residential building</li> <li>The Town does not currently have a tool to identify these ADU's</li> <li>There are potentially over 1400 applications for permits with the building division for the construction of these ADU's.</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for vulnerable individuals including seniors and youth within Group C buildings.</li> <li>Potential for exposure risk depending on dwelling type and building age</li> </ul> | High       |

| No. | Profile     | Identified Risk                                                                                                                                                                                                                    | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 10  | Demographic | The percentage of the population aged 65 years and older in Milton is 10.47%. Additionally, 9.28% of the town's population falls between the ages of 55 and 64, gradually aging into the senior demographic of 65 years and older. | Almost Certain    | <ul style="list-style-type: none"> <li>Canada's aging population has been recognized as one of the most significant demographic trends.</li> <li>Seniors (those 65 years and over) are considered to represent one of the highest fire risk groups across the province based on residential fire death rate (fire deaths per million of population).</li> <li>There are 4 registered long-term care/retirement homes in Milton with capacity for approximately 570 people</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | High       |
| 11  | Demographic | In the Town of Milton, the proportion of newcomers is 9.33% higher when compared to that of the province. (39.28% compared to Ontario at 29.98%)                                                                                   | Likely            | <ul style="list-style-type: none"> <li>The predominant languages other than English spoken by Milton residents are Urdu, Arabic, Spanish, Punjabi, and Tagalog</li> </ul>                                                                                                                                                                                                                                                                                                            | Moderate          | <ul style="list-style-type: none"> <li>Cultural background and language considerations remain crucial factors for fire service providers when developing and delivering fire prevention and public education programs.</li> </ul>                                                                                                                 | Moderate   |

| No. | Profile                     | Identified Risk                                                                                                                                                                                                                                        | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                       | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 12  | Past Loss and Event History | For the period from January 1, 2018, to December 31, 2022, the Town of Milton experienced a total of 183 structure fires with 67.21% (123) of these fires occurring in Group C-Residential Occupancies, contributing to 83.51% of the total fire loss. | Almost Certain    | <ul style="list-style-type: none"> <li>Fires were responsible for 77.78% of the total loss for this period.</li> <li>85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies.</li> <li>Milton has a 16.07% higher fire loss in group C occupancies than the province</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | High       |

| No. | Profile                     | Identified Risk                                                                                                                                                                                                                                                                                               | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                      | Risk Level |
|-----|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 13  | Past Loss and Event History | For the period from January 1, 2018, to December 31, 2022, group F- Industrial occupancies accounted for 12.57% of the structure fires and 3.67% of the total structure fire loss but only represents 1.65% of the building stock. Milton had a 5.30% higher incidence of industrial fires than the province. | Likely            | <ul style="list-style-type: none"> <li>Group F industrial accounts for only 1.65% of the property stock but 12.57 % of the structure fires and 3.67% of fire loss.</li> <li>Milton had a 5.30% higher incidence of industrial fires than the province.</li> <li>There have been 23 industrial fires over the past 5 years resulting in over \$750k fire loss</li> <li>There are 85 properties within Milton that have been identified as having a potentially high fuel load and therefore an increased high fire risk.</li> <li>14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province</li> </ul> | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage, significant threat to businesses and local economy – depending on type of business</li> </ul> | High       |

| No. | Profile                     | Identified Risk                                                                                                                                                   | Probability Level | Rationale                                                                                                                                                                                                                                                                                                                                                                                     | Consequence Level | Rationale                                                                                                                                                                                                                                                                                                                                         | Risk Level |
|-----|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 14  | Past Loss and Event History | Compared to the province, Milton exhibited a 6.65% lower incidence of fires in Group C- Residential Occupancies but a 16.07% higher share of structure fire loss. | Likely            | <ul style="list-style-type: none"> <li>The town's percentage of fire loss 16.07% higher than the province</li> <li>incidents where a smoke alarm was present but failed to operate accounted for 13.33%,</li> <li>the status of smoke alarms could not be conclusively determined in 30.00% of the incidents responded to by MFRS which is 4.71% higher than that of the province.</li> </ul> | Moderate          | <ul style="list-style-type: none"> <li>Could pose a threat to the life safety of occupants</li> <li>Could result in moderate property loss</li> <li>Potential for exposure risk depending on dwelling type and building age</li> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> </ul> | Moderate   |
| 15  | Past Loss and Event History | In the Town of Milton 14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province                                 | Likely            | <ul style="list-style-type: none"> <li>Group F industrial accounts for only 1.65% of the property stock but 12.57 % of the structure fires and 3.67% of fire loss.</li> <li>Milton had a 5.30% higher incidence of industrial fires than the province.</li> </ul>                                                                                                                             | Major             | <ul style="list-style-type: none"> <li>Potential presence and maintenance of fire protection equipment would influence consequence level</li> <li>potential for large loss of life, significant property damage, significant threat to businesses and local economy – depending on type of business</li> </ul>                                    | High       |

## 11.2 Risk Treatment

NFPA 1300 and the OFM TG-02-2019 apply the process of identifying a risk treatment option for an identified risk. The risk treatment options include avoidance, mitigation, acceptance, and transfer.

Table 60: Risk Treatment Options

| Treatment Option | Description                                                                                                                                               |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avoid            | Implementing programs and initiatives to prevent a fire or emergency from happening.                                                                      |
| Mitigate         | Implementing programs and initiatives to reduce the probability and/or consequence of a fire or emergency.                                                |
| Accept           | After identifying and prioritizing a risk, the fire service determines that no specific programs or initiatives will be implemented to address this risk. |
| Transfer         | The fire service transfers the impact and/or management of the risk to another organization or body. (i.e. fire protection agreements, automatic aid)     |

Table Source: (OFM-TG-02-2019, Revised 2022, pp. Section 6, pg. 16)

Section 7 of TG 02-2019 discusses setting the levels of service. To assist with application of the Identified Risks in the CRA, municipalities must consider the “Establishment of goals and objectives, strategies, timelines, and evaluation for the proposed fire protection services to be provided.”<sup>27</sup> This includes the identification of programming or resource gaps and the plan to close those gaps. Typically, this articulated as part of a Fire Master Plan or Community Risk Reduction strategy.

Recommendations of a Fire Master Plan should focus on ways to proactively reduce risk through education, prevention, and enforcement with fire suppression as the fail-safe.

The Five Es is a framework outlined in NFPA 1300, and the Institution of Fire Engineers’ Vision 20/20 National Strategy for Fire Loss Prevention, is a tool that helps to provide a lens through which identified risks can be reviewed to inform and support the Fire Master Plan. Table 61 identifies and describes each of the 5 Es of risk mitigation.

<sup>27</sup> (OFM-TG-02-2019, Revised 2022, pp. Section 7, pg. 18) 8

Table 61: 5 E's of Risk Mitigation

| Mitigation Type     | Description                                                                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education           | Aims to provide information that creates awareness and knowledge and subsequently changes behaviour.                                                                                                  |
| Engineering         | When education does not change an individual's behavior, this component removes the human factor and introduces technology to improve safety such as smoke alarms.                                    |
| Enforcement         | Intended to correct negative human behaviour through legislation such as the Ontario Building Code and the Ontario Fire Code and the Provincial Offences Act.                                         |
| Economic Incentives | Provided to reinforce positive impacts (e.g., insurance discounts or tax levy reductions) and discourage negative impacts (e.g., fines and charges)                                                   |
| Emergency Response  | Necessary only if the first 4 Es are unsuccessful, and a fire incident occurs. The level of service for a community is determined by Council based on the needs and circumstances identified locally. |

Table Source: Adapted from (NFPA 1300, 2020, p. Annex A.6.3.3.2(4)) & (Vision 20/20, 2016)

Table 62 summarizes the identified risks and presents ways in which the risks can be addressed by MFRS and ultimately considered within the Fire Master Plan analysis and recommendations.

Table 62: Identified Risk Treatment

| Profile                                      | Identified Risk                                                                                                                                                                                                                                                                                    | Risk Level | Risk Treatment Option | Education | Enforcement | Engineering | Economic Incentives | Emergency Response |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------|-------------|-------------|---------------------|--------------------|
| Geographic                                   | The road network predominately Hwy 401 bisecting the town, is a contributor to emergency call volume due to motor vehicle collisions and vehicle fires                                                                                                                                             | High       | Accept                | No        | No          | No          | No                  | Yes                |
| Geographic                                   | Since provincial highways and rail lines are designated dangerous goods routes, traffic carrying various hazardous materials passes through the town regularly.                                                                                                                                    | Moderate   | Accept                | No        | No          | No          | No                  | Yes                |
| Building Stock and Past Loss & Event History | Group C residential occupancies represent 89.65% of the towns existing occupancies. Additionally, 83.51% of structure fires loss, 85.71% of the civilian fire related injuries and 100.00% of the fire related fatalities occurred in Group C Occupancies. (January 1, 2018, to December 31, 2022) | High       | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |

| Profile        | Identified Risk                                                                                                                                                                                                                      | Risk Level | Risk Treatment Option | Education | Enforcement | Engineering | Economic Incentives | Emergency Response |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------|-------------|-------------|---------------------|--------------------|
| Building Stock | 8.51% (3631) of the building stock was constructed before 1975 preceding the adoption of the 1975 OBC and 16.51% (7046 properties) of the town's building stock was constructed before 1981, preceding the adoption of the 1981 OFC. | High       | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |
| Building Stock | There are 85 properties within Milton that have been identified as having a potentially high fuel load and therefore an increased high fire risk.                                                                                    | Moderate   | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |
| Building Stock | According to MPAC Data, there are 44 buildings over 100,000 square feet and two buildings over 1,000,000 square feet                                                                                                                 | Moderate   | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |

| Profile        | Identified Risk                                                                                                                                                                                                                                     | Risk Level | Risk Treatment Option | Education | Enforcement | Engineering | Economic Incentives | Emergency Response |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------|-------------|-------------|---------------------|--------------------|
| Building Stock | There are 78 Properties identified by the Town as Heritage Properties. Historic areas can present a high fire risk due to their age and the materials used to construct the buildings, as well as exposure                                          | Moderate   | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |
| Building Stock | The Town of Milton currently has 23 occupancies that have been identified as a potential vulnerable occupancy.                                                                                                                                      | Moderate   | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |
| Building Stock | The permitting of up to 3 additional dwelling units per residential property allows for increased occupants and increased risk in residential buildings. Additionally, MFRS doesn't have access to identifying these building prior to an incident. | High       | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |

| Profile                   | Identified Risk                                                                                                                                                                                                                                       | Risk Level | Risk Treatment Option | Education | Enforcement | Engineering | Economic Incentives | Emergency Response |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------|-------------|-------------|---------------------|--------------------|
| Demographic               | The percentage of the population aged 65 years and older in Milton represents 10.47% of the total population 9.28% of the town's population falls between the ages of 55 and 64, gradually aging into the senior demographic of 65 years and older.   | High       | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |
| Demographic               | In the Town of Milton, the proportion of newcomers is 9.33% higher when compared to that of the province. (39.28% compared to Ontario at 29.98%)                                                                                                      | Moderate   | Mitigate              | Yes       | No          | No          | No                  | Yes                |
| Past Loss & Event History | For the period from January 1, 2018, to December 31, 2022, the Town of Milton experienced a total of 183 structure fires with 67.21 (123) of these fires occurring in Group C-Residential Occupancies, contributing to 83.51% of the total fire loss. | High       | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |

| Profile                   | Identified Risk                                                                                                                                                                                                                                                                                               | Risk Level | Risk Treatment Option | Education | Enforcement | Engineering | Economic Incentives | Emergency Response |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------|-------------|-------------|---------------------|--------------------|
| Past Loss & Event History | For the period from January 1, 2018, to December 31, 2022, group F- Industrial occupancies accounted for 12.57% of the structure fires and 3.67% of the total structure fire loss but only represents 1.65% of the building stock. Milton had a 5.30% higher incidence of industrial fires than the province. | High       | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |
| Past Loss & Event History | Compared to the province, Milton exhibited a 6.65% lower incidence of fires in Group C-Residential Occupancies but a 16.07% higher share of structure fire loss.                                                                                                                                              | Moderate   | Mitigate              | Yes       | Yes         | Yes         | No                  | Yes                |
| Past Loss & Event History | In the Town of Milton 14.29% of the injuries were attributed to Group F industrial fires which is 11.41% higher than the province.                                                                                                                                                                            | High       | Mitigate              | Yes       | Yes         | Yes         | Yes                 | Yes                |

### 11.3 Risk Mapping

This section provides the base risk assignments and associated mapping to provide a spatial context to assist in developing appropriate risk reduction strategies for each line of defence. Table 63 & Table 64 below represent the base, assigned risks for both OBC Classification and Expected Growth by Neighbourhood area.

Table 63: Base Risk by OBC Classification

| OBC Classification                     | Number of Occupancies | Probability | Consequence  | Assigned Risk |
|----------------------------------------|-----------------------|-------------|--------------|---------------|
| Group A - Assembly                     | 133                   | Rare        | Major        | Moderate      |
| Group B- Care or Detention Occupancies | 32                    | Unlikely    | Major        | Moderate      |
| Group C - Single Family Residential    | 21,740                | Likely      | Moderate     | Moderate      |
| Group C - Multi Unit Residential       | 293                   | Likely      | Major        | High          |
| Group C- Row                           | 10,307                | Likely      | Major        | High          |
| Group D- Business & Personal Services  | 397                   | Unlikely    | Moderate     | Moderate      |
| Group E- Mercantile                    | 253                   | Unlikely    | Moderate     | Moderate      |
| Group F1- High Risk Industrial         | 4                     | Unlikely    | Catastrophic | High          |
| Group F2 - Med Risk Industrial         | 675                   | Unlikely    | Major        | Moderate      |
| Group F3 - Low Risk Industrial         | 11                    | Unlikely    | Moderate     | Moderate      |

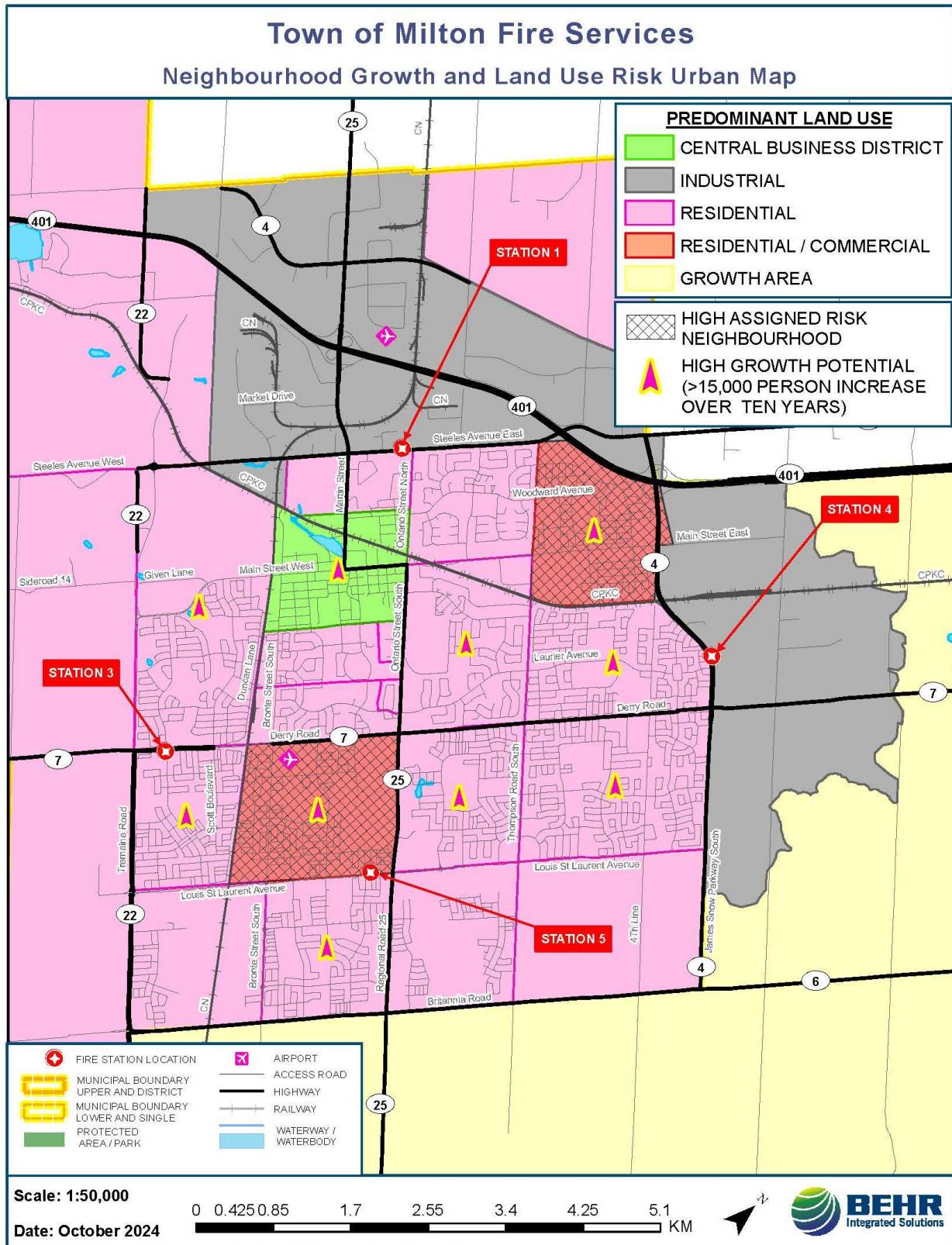
Table 64: Base Growth Area Risks by Neighbourhood<sup>28</sup>

| Neighbourhood       | 2023 Population | 2030 Population | Predominant Land Use              | Probability | Consequence | Assigned Risk |
|---------------------|-----------------|-----------------|-----------------------------------|-------------|-------------|---------------|
| 401 Industrial Area | 1,002           | 4,602           | Industrial                        | Unlikely    | Major       | Moderate      |
| Beaty               | 20,863          | 63,463          | Residential                       | Likely      | Moderate    | Moderate      |
| Bowes               | 130             | 897             | Residential                       | Possible    | Moderate    | Moderate      |
| Bronte Meadows      | 3,069           | 8,669           | Residential                       | Possible    | Moderate    | Moderate      |
| Clarke              | 16,288          | 49,788          | Residential                       | Likely      | Moderate    | Moderate      |
| Coates              | 11,920          | 44,074          | Residential                       | Likely      | Moderate    | Moderate      |
| Cobban              | 5,430           | 6,019           | Residential                       | Possible    | Moderate    | Moderate      |
| Dempsey             | 11,161          | 34,875          | Residential/<br>Commercial        | Likely      | Major       | High          |
| Derry Green CBP     | 83              | 301             | Business Park/<br>Industrial Area | Possible    | Major       | Moderate      |
| Dorset Park         | 5,931           | 19,431          | Residential                       | Possible    | Moderate    | Moderate      |
| Esquesing           | 624             | 940             | Residential                       | Possible    | Moderate    | Moderate      |
| Fallingbrook        | 2,176           | 5,576           | Residential                       | Possible    | Moderate    | Moderate      |
| Ford                | 13,083          | 33,583          | Residential                       | Likely      | Moderate    | Moderate      |
| Forest Grove        | 67              | 234             | Residential                       | Unlikely    | Moderate    | Moderate      |
| Harrison            | 13,105          | 45,405          | Residential                       | Likely      | Moderate    | Moderate      |
| Milton Heights      | 172             | 1,176           | Residential                       | Possible    | Moderate    | Moderate      |
| Mountain View       | 1,053           | 3,553           | Residential                       | Possible    | Moderate    | Moderate      |

<sup>28</sup> Compiled from Town of Milton Neighbourhood Growth Database and (Town of Milton Official Plan, 2024 (draft))

| Neighbourhood | 2023 Population | 2030 Population | Predominant Land Use                    | Probability | Consequence | Assigned Risk |
|---------------|-----------------|-----------------|-----------------------------------------|-------------|-------------|---------------|
| Nassagaweya   | 7,134           | 25,334          | Residential                             | Likely      | Moderate    | Moderate      |
| Nelson        | 1,318           | 5,118           | Residential                             | Possible    | Moderate    | Moderate      |
| Old Milton    | 5,322           | 21,522          | Central Business District               | Unlikely    | Major       | Moderate      |
| Scott         | 14,308          | 44,008          | Residential                             | Likely      | Moderate    | Moderate      |
| Timberlea     | 7,755           | 28,255          | Residential                             | Likely      | Moderate    | Moderate      |
| Trafalgar     | 1,110           | 9,110           | SHP Growth Area                         | Possible    | Moderate    | Moderate      |
| Valley View   | 190             | 520             | Residential                             | Likely      | Moderate    | Moderate      |
| Walker        | 1,146           | 1,362           | Residential                             | Unlikely    | Moderate    | Moderate      |
| Willmott      | 14,008          | 52,304          | Residential/<br>Residential Office Area | Likely      | Major       | High          |

Map 8: Neighbourhood Growth and Land Use Risk Urban Map



## APPENDICES

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